



JISC Project Management Guidelines

June 2011

Purpose of the Guidelines

These Guidelines are for institutions that have received funding for JISC development projects. They explain JISC programmes, how they are managed, and what is expected of projects within the programmes. The Guidelines are also intended for institutions preparing bids for JISC funding, as knowing in advance what JISC expects of projects may help them to plan the bid.

The Guidelines are in three sections:

- I. **JISC Innovation Programmes** – This section covers JISC strategy and core themes, innovation programmes, and the guiding principles behind them providing the context in which JISC projects are funded and take place;
- II. **Working with JISC Programmes** – This section covers how projects are expected to work with JISC programmes and how JISC will support and work with them;
- III. **Project Planning Guidance** – This section provides guidance for projects on developing the project plan for JISC.

They are supported by various templates for developing plans and reports, and there are numerous links to further resources.

The JISC Circular or ITT inviting bids explains what work will be funded and how bids should be prepared and submitted. When a bid is funded, JISC issues a letter of grant that specifies the period of funding, the grant, how payments will be made, and any other terms and conditions specific to the project and/or institutions funded. Attached to the letter of grant are:

(1) the standard Terms and Conditions that apply to all JISC projects; and (2) the agreed project proposal. Together these document the obligations of the institutions during the term of the funding.

One of the standard terms and conditions is that institutions must adhere to JISC's Project Management Guidelines, i.e. this document. For many of the topics covered there is a short summary of JISC requirements. This is just a summary, and institutions should read the full Guidelines to understand why and how these requirements apply.

Though institutions will find these Guidelines most useful when preparing their project plan (or bid), they should continue to use them throughout the project. Many topics contain a section called 'Review as you Go' that highlights things to think about as work progresses. These include reflecting on how things are going, what the project is learning, whether plans need to be adjusted, and dealing with problems and issues.

Any questions concerning these guidelines email projects@jisc.ac.uk

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I. JISC Development Programmes

This section of the Project Management Guidelines covers JISC strategy and core themes, development programmes, and the guiding principles behind them providing the context in which JISC projects are funded and take place.

1. JISC

The [Joint Information Systems Committee \(JISC\)](#) supports further and higher education by providing strategic guidance, advice and opportunities to use Information and Communications Technology (ICT) to support teaching, learning, research and administration. With funding from all the [UK post-16 and higher education funding councils](#), JISC provides a centralised and co-ordinated direction for the development of the infrastructure and activities, in line with its [strategy](#).

JISC funds a national [services](#) portfolio (e.g. JANET) and a range of [programmes](#) (e.g. [Users and Innovation: Personalising technologies](#)) and [projects](#) (e.g. First World War poetry digital archive).

JISC operates through a [committee](#) system. JISC is supported by six [sub-committees](#) that fund services and strategic development programmes. Members of JISC, its sub-committees, and various working groups are senior managers, teachers, researchers, and technology experts from across the UK educational sector. This provides strong links with the community and ensures that JISC remains responsive to the changing needs of further and higher education (FE/HE). The JISC committees are supported by an Executive facilitating policy determination and management. The six JISC sub-committees are:

- [JISC Organisational Support](#)
- [JISC Content Services](#)
- [JISC Integrated Information Environment](#)
- [JISC Learning and Teaching](#)
- [JISC Networking](#)
- [JISC Support of Research](#)

2. JISC Strategy and Core Themes

Development projects should read the [strategy](#) to understand the context for development generally and to consider how their project will contribute to achieving the strategy.

JISC's mission is to provide world-class leadership in the innovative use of Information and Communications Technology to support education and research. JISC's [six strategic aims](#) reflect and support government objectives and the needs of the education and research communities.

JISC will deliver its mission through:

- innovative and sustainable ICT infrastructure, services and practice that support institutions in meeting their mission;
- promoting the development, uptake and effective use of ICT to support learning and teaching;
- promoting the development, uptake and effective use of ICT to support research;
- promoting the development, uptake and effective use of ICT within institutions and in support of their management;
- developing and implementing a programme to support institutions' engagement with the wider community;
- continuing to improve its own working practices.

Development projects should also become familiar with the 8 [core themes](#) that JISC focuses its work around:

- [Network](#)
- [Access Management](#)
- [Information Environment](#)
- [e-Resources](#)
- [e-Learning](#)
- [e-Research](#)
- [e-Administration](#)
- [Business and Community Engagement](#)

3. Why JISC Funds Development Programmes

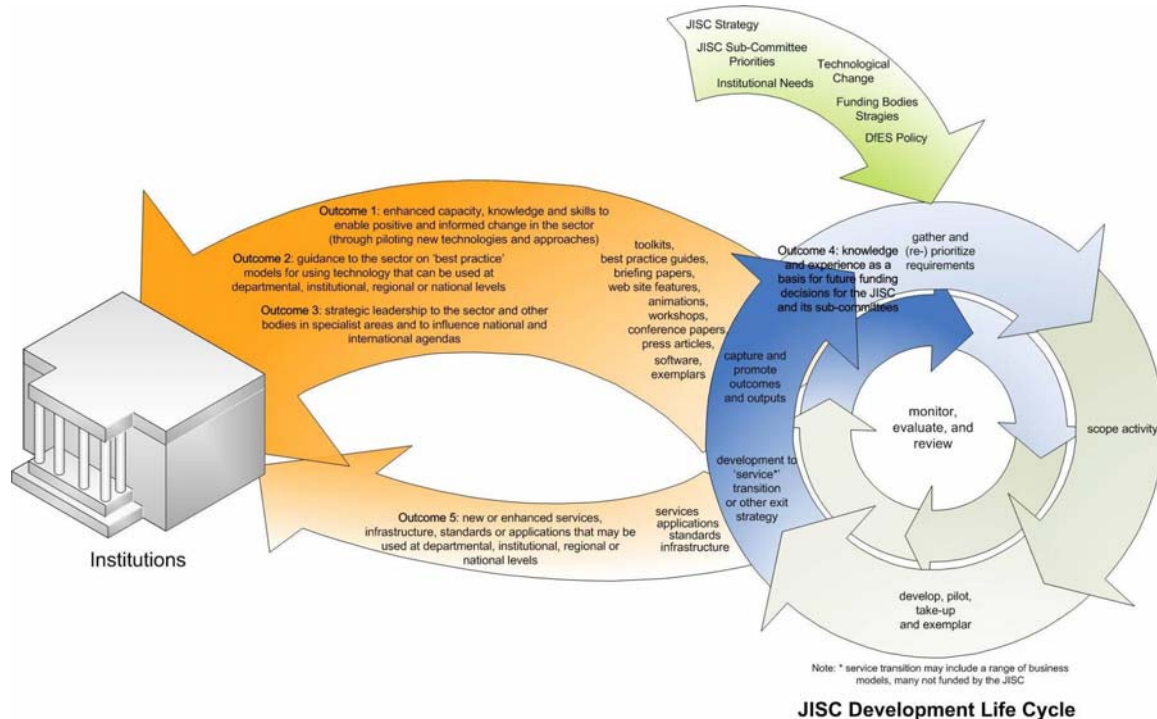
JISC makes significant investments in innovative development work to support the overall JISC [strategy](#) covering the spectrum of the 8 [core themes](#). As ICT evolves at its rapid pace its application and potential use in the support of education and research is continually changing. JISC development programmes support innovative and world leading use of ICT across all UK HE Institutions and FE Colleges benefiting the whole sector. The end result is a world-class infrastructure that integrates teaching, learning, and research though:

- Enhanced capacity, knowledge and skills to enable positive and informed change in the sector (through piloting new technologies and approaches);
- Example: [Shibboleth early adopter projects](#) piloted and tested the shibboleth technology while at the same time this increased the knowledge and skill base and the numbers who could work with shibboleth thus increasing capacity in the sector.
- Guidance to the sector on 'best practice' models for using technology that can be used at departmental, institutional, regional or national levels;
- Examples: [Effective practice in e-Learning guide](#) and [creating an Managed Learning Environment](#).
- Strategic leadership to the sector and other bodies in specialist areas and to influence national and international agendas;
- Example: Through development programmes JISC has representation with bodies such as [IMS](#), [Internet2](#), [HEA](#), [BETCA](#), [DfES](#), and [e-Framework Initiative](#).
- Knowledge and experience as a basis for future funding decisions for the JISC and its sub-committees;
- Example: [FAIR Programme Evaluation](#).
- New or enhanced services, infrastructure, standards or applications that may be used at departmental, institutional, regional or national levels.

Examples: [Federated Access Management \(Shibboleth\)](#) and [Jorum](#).

The development work is organised into [programmes](#) which consist of a number of [projects](#) funded by the JISC [sub-committees](#) and managed by the [Development Group](#) within the [JISC Executive](#). Projects are managed and run within HE Institutions, FE Colleges and related education and research organisations. JISC commission and fund these projects via bidder responses to [funding opportunities](#) (circulars and ITTs).

4. JISC Development Life Cycle



JISC Development Life Cycle

The above diagram illustrates the development life cycle. In planning development programmes and projects the JISC gathers requirements and scopes activity based on:

- JISC strategy;
- JISC sub-committees prioritises;
- Institutional needs;
- Technological change;
- Funding body strategies;
- DfES policy.

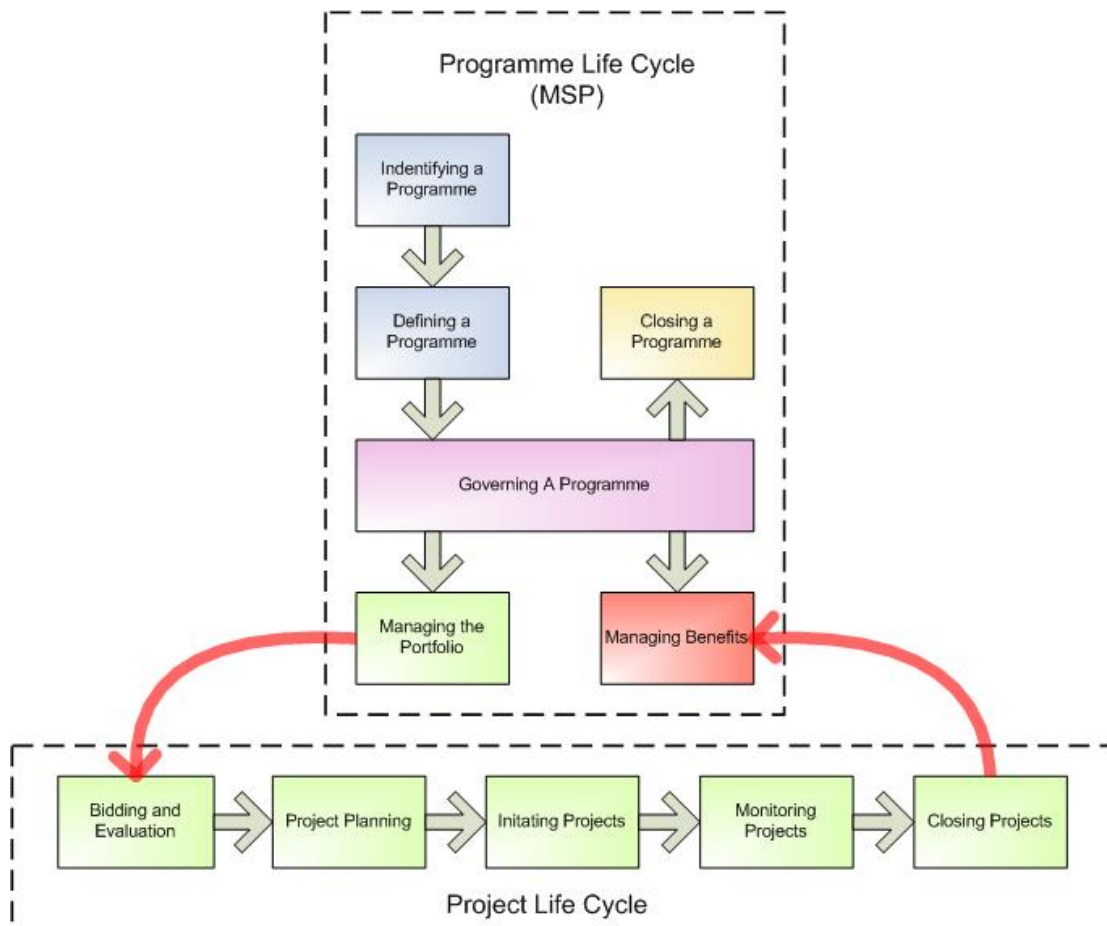
The programme and projects scoped by JISC and its sub-committees must ensure that the activity is:

- Technology based;
- Provides a UK wide benefit and adds value beyond that which could be achieved by institutions acting individually or collectively;
- Not possible, or is unlikely, without central support;
- Delivered with improved value for money and has a clear output;
- Could not be performed as well and more appropriately by institutions or by another body.

Each programme will result in a range of outputs content, software, technology, models, reports, services, and learning, which are of benefit to a project's host institution(s) and are synthesised and disseminated via the programme to benefit the wider education and research community. Each project involves UK institutions that learn from the development and share their learning with the JISC community.

5. JISC Programme Management Methodology

JISC programme management methodology is based on [Managing Successful Programmes \(MSP\)](#). MSP is a structured yet flexible framework of processes, documentation and techniques promoted and supported by the [Office for Governance and Commerce \(OGC\)](#). JISC is using MSP in conjunction with a range of development approaches which address issues such as: sustainability; IPR and licensing; transition to service; evaluation;



communication; stakeholder engagement; value for money; and impact.

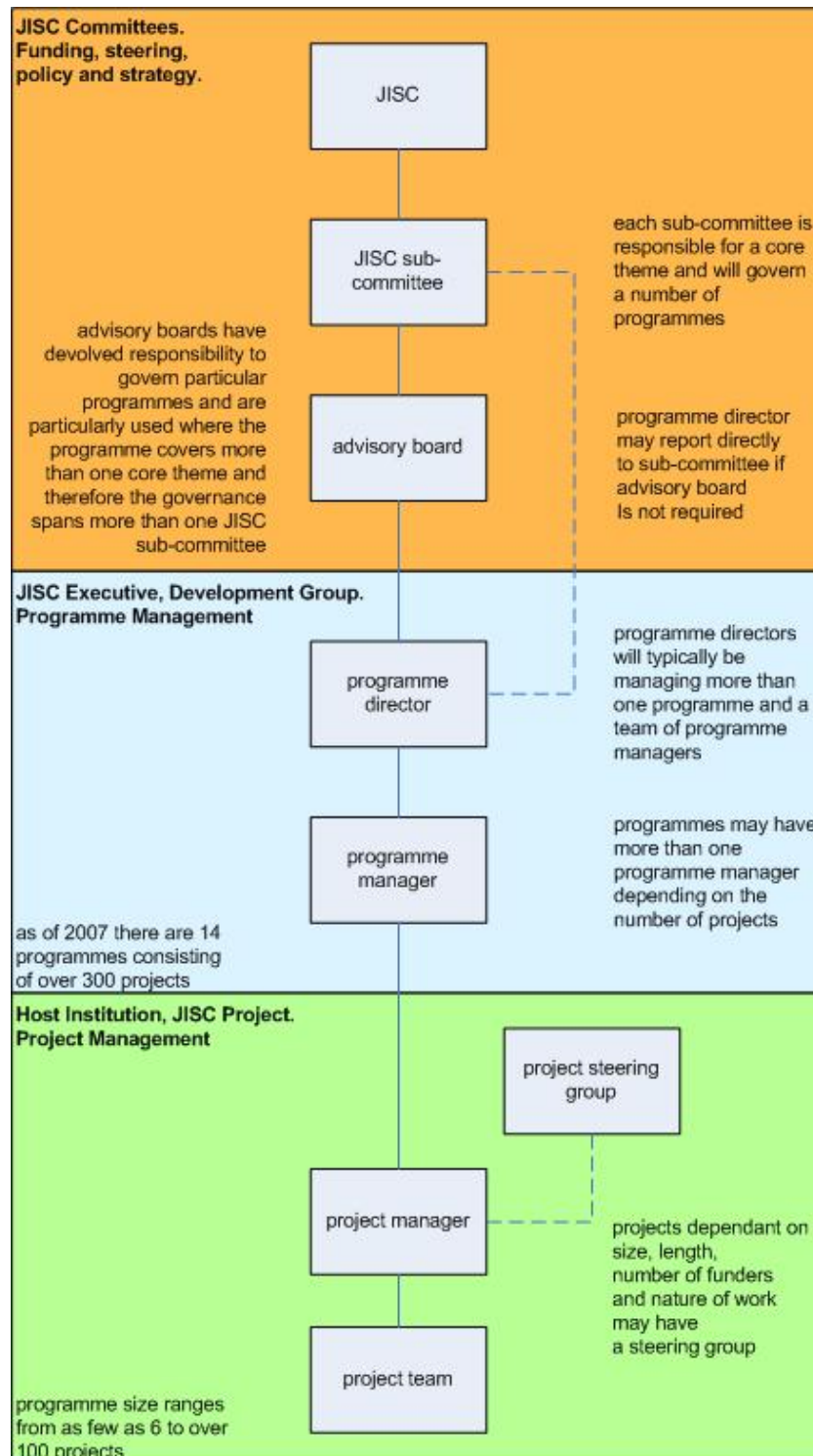
JISC Programme Management Methodology

Each programme is articulated using a vision statement and desired outcomes which can be found on the programme's web page and is also published in circulars and ITTs to support calls for projects. Projects should ensure that they are aligned with the aspirations of the programme and that they have a clear understanding of how they contribute to the vision and desired outcomes.

II. Working with JISC Programmes

This section of the Project Management Guidelines covers how projects are expected to work with JISC programmes and how JISC will support and work with them.

1. JISC Programme Governance



JISC programmes are funded by the JISC [sub-committees](#) and managed by the [Development Group](#) within the [JISC Executive](#). Each programme typically has an advisory board, a programme director and one or more programme managers. The programme manager looks after a portfolio of projects working closely with a number of project managers. A project manager is appointed by the project to manage its affairs and is the main link between the project and the programme.

JISC programmes aim to create a supportive and collaborative environment for projects so they feel and become part of the programme and the wider development community spanning all of JISC development activity. This approach is beneficial to both the programme (therefore UK education and research) and also to the host institution which gains from the knowledge, skills and ideas through engagement with other projects.

1.1. JISC Sub-Committees

JISC delegates responsibility for its various programmes to its sub-committees. The sub-committees have overall responsibility for the various programmes including funding, steering, policy, and strategy. They carry out this responsibility through members of the JISC Executive.

1.2. Programme Advisory Board

In some cases the JISC Executive, in consultation with the relevant sub-committee, agrees to set in place a programme level advisory board. This will be composed of experts and stakeholders in the JISC community and beyond. These boards are responsible for helping the Executive to steer the programme and will send regular reports to the JISC sub-committee via the Executive. If an advisory board is not in place, the Executive is responsible for providing regular reports directly.

As noted above, members of a programme advisory board will be experts in the field, and the board will play an important role in steering the programme. The board works closely with the programme manager to oversee programme activities like planning strategies for evaluation, dissemination, and exit/sustainability, and may advise on areas like standards and best practice. They may also advise on synergies within the programme and with external organizations, and play a role in steering the projects in the programme.

1.3. JISC Executive

The [JISC Executive](#) comprises staff in [Policy and Corporate Services](#), [Development](#), and [Services and Outreach](#). The secretary of each sub-committee is based in Policy and Corporate Services. The Development Group oversees the work of development programmes and projects. It is responsible for monitoring projects, ensuring deliverables and timescales are achieved, and ensuring that programmes and projects are coordinated such that they deliver maximum value to the JISC community. It is also responsible for managing programmes, dealing with project issues or problems, and agreeing modest changes to plans or changes in direction.

1.4. Programme Director

The programme director is responsible leading activity for a core theme, directing a number of programmes and initiatives and working with the relevant JISC sub-committee to ensure programmes are well scoped, resourced and links between programmes are recognised and exploited. The programme director manages a team of programme managers and is ultimately responsible for the programme and accountable to the JISC sub-committee funding the programme.

1.5. Programme Manager

Liaise with the JISC Executive through a nominated programme manager in the Development Group. The programme manager provides guidance and support to projects, and coordinates their work within the overall programme. Further information about the programme manager role is given in Section II 2.

1.6. Project Manager

The project manager is the main link with the programme and is responsible for ensuring the project is well managed and that core project documentation is submitted to JISC to schedule. They also have an important role in liaising with other projects, managing stakeholders and working with the project team to deliver the outputs and outcomes of the project. JISC does not stipulate any specific project management qualifications (e.g. [PRINCE2](#)) or approach but it does recommend some background or training for those who take on this role. See section III for more background on project management approaches.

JISC Infonet run [project management training courses](#) and provide a [project management infokit](#).

2. The Programme Manager

Projects will work closely with their programme manager, so it's important to understand the role. Within the Development Group, programme managers and programme directors work together to plan strategic new development programmes, develop strategies for implementation, and ensure that programme outcomes are achieved and the outputs where applicable are sustainable and taken up by the wider community. Programme managers:

- Facilitate a supportive and cooperative environment for projects.
- Manage JISC programmes from launch to close down;
- Provide a framework for quality planning and evaluation, dissemination, and sustainability at programme level, and guide projects in developing plans in these areas;
- Provide guidance and support for projects within the programme;
- Coordinate the work of projects within the programme and across other programmes;
- Arrange programme meetings and other events to brief projects and share their results;
- Monitor the performance of projects through progress reports, site visits, etc;
- Ensure that project deliverables and core project documents are submitted on time and manage the acceptance process;
- Collate the learning of projects together with formative programme evaluation so that the progress and impact of the programmes can be monitored and 'steered' dynamically.

The relationship between projects and the programme manager is one of mutual support and encouragement, to get the best value from the funding given to the JISC community.

2.1. What Programme Managers Expect of Projects

- Abide by the letter of grant, the JISC Terms and Conditions, and these Project Management Guidelines;
- Put in place robust project management procedures and use them to manage the project effectively;
- Write a project plan that clearly indicates how the project will achieve its objectives (using the templates provided);
- Submit project deliverables and core project documents on time and ensure they meet quality expectations and acceptance criteria;
- Keep the programme manager informed, especially about changes, e.g. changes to plan, changes in staffing, or any delays foreseen;
- Report problems and issues early. The programme manager can help prevent small problems becoming large ones;
- Provide timely formative feedback on 'how well things are going', what the project is learning from the experience, and how the project or programme could be improved;
- Attend programme meetings and other events indicated by the programme manager.

2.2. What Projects Can Expect of the Programme Manager

- Clear communication;
- Quick response to queries;
- A promise to resolve problems/issues as soon as possible;
- Feedback on project plans and reports;
- A framework for quality planning and evaluation, dissemination, and sustainability at programme level;
- Help in changing strategy/tactics as required by changes in the environment or learning within the project or programme;
- No penalties for learning as you go along or for the failure of well-planned and executed initiatives.

3. Programme Meetings

JISC requirement – Projects must allocate 10 person days per year to participate in Programme activities. Attendance at Programme meetings is mandatory.

3.1. Purpose

An important way that JISC supports projects is by holding programme meetings. The purpose of programme meetings is to:

- **Inform** – Brief projects about the programme and show how their work and results fit in;
- **Network** – Encourage communication and networking within and across programmes;
- **Share results** – Allow projects to share their results and experience within and across programmes;
- **Guidance** – Give practical advice on important topics like evaluation, quality planning, dissemination, and sustainability;
- **Impact** – Explore how to maximise success within the community.

3.2. Biannual Programme Meetings

Typically each programme holds two large programme meetings per year, and attendance is mandatory. A typical programme meeting would be spread over two days, and the topics covered would vary depending on the stage in the programme's lifecycle. For example:

- **Kick-off meeting** – The first programme meeting might cover topics like the purpose of the programme, context in JISC development strategy, governance, reporting, project management, project planning, etc.
- **Update meeting** – Subsequent meetings might cover progress to date, with projects giving presentations or demos on their work. The purpose would be to share results and knowledge.
- **Themed meeting** – All or part of a meeting might focus on a topic of interest, e.g. dissemination, evaluation, or standards. For example, an expert involved in evaluation at programme level might give guidance on how to perform evaluation at project level.
- **End of programme meeting** – Typically the last programme meeting focuses on synthesis of results across the programme and impacts on the community.

Throughout the programme, these meetings will provide guidance and support, and the opportunity to network with colleagues working on similar topics and issues.

3.3. Other Events

Each programme may also hold smaller events for project staff. The programme might hold a practical workshop on evaluation or standards. Occasionally JISC holds a one-off cross-programme workshop on topics like intellectual property rights or sustainability planning.

The programme manager may also recommend that project staff participate in other JISC-sponsored activities. These will vary with the programme. For example, in projects related to learning and teaching, technical staff should participate in one of the CETIS special interest groups (SIGs), and the project manager and/or director should plan to attend the Association for Learning Technology annual conference.

3.4. One-to-One Meetings

The programme manager will also meet with projects individually, to get to know the project staff, discuss plans and progress in detail, and discuss any problems and issues. The programme manager might plan to visit each project once per year, but this will vary from programme to programme. Projects might consider inviting the programme manager for a visit when they have something new to demonstrate or when they would particularly like some feedback on their work.

3.5. Time Commitment

Institutions preparing bids must allow staff time to attend programme meetings. A 2 year project employing 6 FTEs might allow 10 person-days per year for programme meetings and other JISC-sponsored events:

- Bi-annual programme meetings 2-day meetings (mandatory)
- Cluster meetings, topic-oriented meetings, workshops
- Site visits (visits from the programme manager)
- JISC CETIS Special Interest Groups or other relevant meeting

Projects should also consider that time will be needed to prepare for meetings, e.g. where the project is presenting a presentation or briefing documents are circulated in advance.

For the biannual programme meetings, typically the project director, project manager, relevant JISC development services, relevant JISC advisory services and institutional representatives would attend. For other meetings, relevant staff would attend depending on the topic. At the start of the project, the programme manager can provide more details about the number and nature of meetings likely to be held, which staff should attend, and a more precise estimate of person-days to include in the project plan.

4. Core Project Documents

JISC requirement – Projects must submit a project plan, progress reports, completion report, final report, and project web page/site as outlined in this section. These documents are subject to approval by the JISC Executive.

Each project must supply a core set of documents to indicate how the project work will be planned and implemented, to report on progress, and to report the final results. The core project documents templates are listed below and each document is described elsewhere in these Guidelines.

Project Stage	Core Project Documents	Sub-Documents	Submission Timing
	Coversheet		To be submitted as the coversheet for all other documentation.
Project Start Up	Project Plan	Work Plan Budget	within 1 month of start date
	Project Web Page on JISC Web Site including copy of accepted project plan		within 1 month of start date
	Project Website at Lead Institution (for projects longer than 6 months)		within 3 months of start date
	Consortium Agreement		within 3 months of start date
During project	Progress Report	Budget Report	default 2 per year schedule with Programme Manager
	Technical and Supporting Documentation		agreed schedule with programme manager
Project Closure	Final Report	Final Budget Report	draft version 1 month before end date; final version at end date
	Completion Report		end date of project
All templates can be found at http://www.jisc.ac.uk/proj_manguide .			

The above is the default templates and submission timing. However, the programme manager may customise the templates or submission timing for your project. For example, the programme manager may add topics specific to your programme that are not covered by the standard templates or allow additional time to submit the project plan where appropriate.

Use the default templates and submission timing unless instructed otherwise by the programme manager. Any problems with completing the documentation or with the submission timing contact the programme manager as they can help and agree alternative schedules where appropriate.

4.1. Coversheet

A generic coversheet should be completed and submitted with all project documentation. The majority of the information on it can be completed once, saved and reused whenever submitting documents.

4.2. Project Plan

Each project must have a formal, written project plan to define aims and objectives and explain how they will be achieved, what will be delivered, how the project will be managed, and how success will be measured. It will be supported by detailed plans for workpackages, evaluation, quality, dissemination, and sustainability. A project plan template is provided, and project planning (Section III) gives guidance for preparing the plan.

The level of detail required in the project plan will depend on the project scope and duration. For short studies and consultancies, the ITT may be quite specific about the work to be done, and only minor modifications may be needed to develop the project proposal into a project plan. For short projects (e.g. 6 months) resulting in deliverables like case studies, the programme manager may recommend a 'light' project plan covering all the topics listed in the template briefly, or perhaps only some of the topics. The programme manager will advise on the level of detail.

The project plan should be submitted within 1 months of the official project start unless an alternative schedule is set by the programme manager. Any problems with submission timing should be discussed with the programme manager as alternatives may be agreed where appropriate.

The project plan must be sent to the programme manager and is subject to approval by the JISC Executive. After approval, the project plan should be used to guide the project work and updated to meet changing circumstances or before starting a new phase. Once the project plan is approved, any major changes must be agreed with the JISC Executive, e.g. changes to deliverables or the project schedule.

The project plan is supported by three sub-templates covering Work Plan [Work Plan Template], Quality Plan [Quality Plan Template] and Budget [Budget Template]. The Work Plan and Budget are mandatory and should be submitted as part of the over all Project Plan. The programme manager will advise on the need to submit the quality plan template as there is already a quality section in the project plan template.

Acceptance criteria for project plans include:

- **Completeness** – It covers all the topics listed in the template. It's not acceptable for a project to omit one or more topics because they are covered by a workpackage later in the project.
- **Detail** – It covers the topics in sufficient detail.
- **SMART objectives** – Objectives are specific, measurable, achievable, realistic, and timed.
- **Workpackages** – The detailed work plan inspires confidence that the project will achieve its aims and objectives.
- **Outputs** – Deliverables are listed and their due dates are clearly indicated in the workpackages.
- **Quality** – The project has planned how they will achieve and measure the quality of outputs expected by the programme.
- **Consistency** – There's coherence between the sections e.g. the workpackages reflect the plans for quality/evaluation, dissemination, and exit/sustainability.

4.3. Project Web Page on JISC Web Site

The JISC web site has a page describing each development programme with links to pages for each project within the programme. Together the programme and project pages give an overview of what the programme will achieve. These web pages are created in a consistent way using the JISC Content Management System (CMS). All projects within the programme must submit the project web template to the programme manager in order that JISC can create a page for the JISC web site within one month of the project start. As well as the information submitted in the template the project plan and other related documents will be published on the project web page. Once created, the project manager should inform the programme manager of any changes that should be made, e.g. URL of the project web site, names of key project staff.

Acceptance criteria for project web pages include:

- **Completeness** – It covers all the topics in the JISC CMS project page template
- **Style** – It is well written and free of typographical errors

4.4. Consortium Agreement

JISC Requirement – If the project involves more than one institutional partner, the partners must sign a consortium agreement and send a copy to the programme manager.

If the project involves more than one partner, the partners must sign a consortium agreement and send a copy to the programme manager. The purpose of the agreement is to ensure that the collaboration is successful and delivers what is promised in the letter of grant signed by the lead institution. It should document the roles and responsibilities of the project partners, how the project work will be conducted, and what will happen in the unlikely event that things go wrong. The consortium agreement must be signed at the start of the project and submitted at the same time as the project plan. For a 3-year project this would be within 3 months of the project start. The programme manager will inform projects if the timing is different, i.e. it may be due sooner for shorter projects.

The length and complexity of a consortium agreement will vary with the project. JISC provides a template consortium agreement, but projects can use a different template or develop their own from scratch. As a minimum, the consortium must address the following topics:

- **Purpose** – Purpose of the consortium
- **Membership** – Membership of the consortium
- **Letter of grant** – Confirmation that all project partners will adhere to the JISC letter of grant signed by the lead institution
- **Responsibilities** – Broad responsibilities of each partner
- **Joining** – Circumstances in which a new institution may join the consortium and their status (e.g. associate partner instead of full partner)
- **Leaving** – Circumstances in which a partner may leave the consortium, the consequences for that partner (financial or otherwise), and for the other partners
- **Financial arrangements** – How project funding will be apportioned among the project partners
- **IPR** – Who will own the IPR of outputs created by the project, e.g. the partner who creates it owns it, or all will own jointly
- **Exploitation** – How intellectual property may be exploited after the project ends, with due reference to the letter of grant
- **Project assets** – When the project ends, who will own assets like hardware and software bought with project funds
- **Disputes** – Process for resolving any disputes among the project partners.

Further guidance on consortium agreements please read [JISC Consortium Agreements FAQ](#).

4.5. Progress Reports

Projects are normally required to provide two progress reports per year, detailing activity during the previous period. Programme managers will advise on the frequency and timing of reporting as short projects (e.g. 6 months) usually require a more frequent reporting schedule. The programme manager may also tailor the progress template to suit the nature of the project and to elicit particular reporting information.

This reporting framework provides the JISC Executive with a consistent and coherent set of data from all projects about activities and progress, the process of implementation, reflections on what has been learned, and revised understandings and expectations about the project. Given the high level of interest in JISC development projects, regular and timely reports are important so that knowledge and results can be shared with the wider community. Progress reporting is also useful for project self-evaluation and reflection among the partners about what is being learned.

The progress report template covers the same topics as the project plan, so projects can report progress against their plans and note any changes they envisage. What is reported will depend on the stage in the project lifecycle. Early on projects will report on start-up activities, later on interim results, and towards the end outcomes and results. At all stages projects must report expenditure against budget (using the budget template). Projects should also report what they are learning, and lessons they would like to pass on to the programme and other projects.

Typically reports are due at the end of January and July, but the programme manager will inform projects if the schedule is different. Reporting dates will also be posted on the programme web site.

Acceptance criteria for progress reports include:

- **Completeness** – It covers all the topics in the template and reports progress against plans
- **Detail** – It covers the topics in sufficient detail
- **Accuracy** – It accurately reflects the extent and status of the project work and doesn't gloss over problems and issues
- **On track** – It clearly indicates if the project is on target and on schedule, or what is being done to address issues
- **Inclusive** – It takes account of all partners and their work
- **Access to project work** – The project web site reflects the progress indicated in the report, e.g. project deliverables, examples, and reports are included on or referenced by the web site.

4.6. Technical and Supporting Documentation

The technical and support documents may vary dependent upon the nature of the project. The programme manager will inform the project of an stipulated documentation that is required and the schedule for its submission.

All projects should be aware of [guidance for projects engaging with the e-Framework](#) which outlines the technical documentation required from projects that are working on activities related to the [e-Framework](#).

4.7. Project Closure Survey

The project closure survey is a short, electronic survey style report for the JISC Executive that acts as a 'sign-off' on the project work. It's for internal use within JISC and the results will not be published more widely.

It captures impact information and lessons learned as well signing off the work undertaken, e.g. that all deliverables and reports have been submitted and accepted, exit plans have been implemented, and IPR issues have been dealt with. Projects will also be encouraged to identify new areas where JISC should undertake development work. All information and feedback given in the survey is important so that JISC can improve its current Innovation programmes and develop new ones.

The project closure survey will be issued to projects by the programme manager prior to the end of the project and it should be submitted at the formal end of the project. A final updated budget must also be submitted to the programme manager when the project closure survey is completed.

4.8. Final Report

The final report documents what the project has done and achieved. For most projects, it will be a report of publishable quality for the community covering topics like aims and objectives, methodology, achievements, findings, outputs and results, outcomes, conclusions, and implications for future work. Where the completion report simply signs off on the project work, the final report gives a more detailed and considered account of the project's achievements that will be of interest to stakeholders and peers in the development community. A final report template has been developed as a general guide to the topics that should be covered in final reports. As with all templates, the programme manager will customise it for the programme and indicate what topics to cover.

The nature and scope of the final report will depend on the work undertaken and the intended audience. In the

case of consultancies and supporting studies, the ITT will indicate the purpose of the report, target audience (e.g. JISC Executive, other group within JISC, a wider audience), and specific topics to cover. For some projects, the project deliverable(s) will be sufficient to document the project's findings and achievements, for example where the deliverable is a case study. In these cases, projects need only submit the deliverable(s) and the completion report; no final report is required. The programme manager will advise.

A draft final report should be submitted at least one month before the end of the project. In the case of long projects (e.g. 3 years), the programme manager may require the draft two months before the end of the project. This will give the programme manager and any advisory board time to read the report, digest it, and send comments or requests for revision back to the project. You should re-submit the final revised version of the final report before the formal project end date. The final report document will be uploaded onto the JISC project webpage to provide further information for interested parties on the achievements of the project.

Acceptance criteria for final reports include:

- **Completeness** – It covers all the topics in the template
- **Structure** – It's clearly structured and well organised
- **Style** – It's well written and free of typographical errors
- **Accuracy** – It provides a true picture of the work performed
- **Objectivity** – It's objective, separating any opinions from fact, and containing nothing libellous
- **Terminology** – Terminology is appropriate for the intended audience
- **Authority** – Any conclusions or recommendations are substantiated by the work performed
- **Attribution** – The work of others is acknowledged.

4.9. Submission of Core Documentation

Generic templates for all [core project documents](#) are posted on the JISC web site. The programme manager may customise the generic templates for the programme. If so they will circulate the customised template to projects, typically one month before the report is due. Projects should ensure that they use the correct template. Instructions or explanatory text is in italics.

All core project documents (with the exception of the Project Closure Survey) should be sent to the programme manager electronically as word files (the budget in excel).

4.10. Acceptance Process

JISC requirement – Project deliverables and core project documents are subject to approval by the JISC Executive.

This section outlines the acceptance process for project deliverables and core project documents.

4.10.1. Acceptance Criteria

The acceptance criteria for core project documents are listed in Section II-4. Acceptance criteria for project deliverables are outlined in Section III-17.2, and the programme manager will provide further information.

4.10.2. Due Dates

Due dates for core project documents are indicated in Section II-4, and the section for each document indicates how timing might vary with the programme.

Due dates for project deliverables must be clearly indicated in the work packages that form part of the project plan. The schedule and any changes to this schedule must be agreed with the programme manager.

Deliverables and core project documents must be submitted on time. Projects receive funding to perform development work, and JISC expects them to deliver on schedule.

4.10.3. Extensions

If the project foresees any problem submitting the deliverable/report on the due date, they should contact the

programme manager in advance and explain the reasons. The programme manager is likely to be quite supportive about any problems the project is having and can offer assistance and advice.

The programme manager will decide if an extension will be granted. An extension is likely to be granted in circumstances beyond the project's control, e.g. suppliers fail to deliver, hardware failure, illness, etc. The programme manager is less likely to be sympathetic if delays are due to poor management. Excuses like staff are on holiday, are off at conferences, or are simply 'busy' are not likely to merit an extension.

Where the programme manager agrees to an extension, the extended due date will be agreed with the project. If this is more than one month from the original due date, the programme manager will inform the committee secretary.

4.10.4. Acceptance

The programme manager will decide if the report/deliverable meets the acceptance criteria and will be therefore accepted by JISC. The programme manager will notify the project in writing (email) about acceptance within one month of the submission date. If the report is accepted, the programme manager confirms this and provides any constructive feedback.

If the report/deliverable is not accepted, s/he explains which criteria have not been met, why, and what further work must be done to get the report/deliverable to an acceptable standard. The programme manager and the project discuss the situation as soon as possible (meeting or phone conference), to ensure that the project understands why the output was not acceptable, what the project must do to bring it up to an acceptable standard, and any additional support needed from the programme.

The programme manager and project agree a resubmission date. If this is more than one month from the date the report/deliverable was rejected, the programme manager informs the committee secretary. The programme manager keeps in touch with the project to provide support or assistance as required to help the project meet the standard required.

The project resubmits the report/deliverable and the acceptance process starts again. If the report/deliverable still doesn't meet acceptance criteria, the programme manager will meet with the project to decide how to proceed. Together they will agree a plan to get the project back on track and the report/deliverable to an acceptable standard. The programme manager will document the meeting and the agreed plan, and send a copy to the committee secretary.

If the project fails to comply with the plan and/or get the report/deliverable to an acceptable standard, the warning process is invoked.

4.10.5. Warning Process

The committee secretary sends the project a **first warning letter**. This letter sets a final due date, indicates any other conditions the project must comply with, and notes that failure to comply will result in suspension of payments. The committee secretary arranges a meeting with the project and programme manager to discuss the warning process, agree what action the project will take to comply, and what will happen if they don't.

If the project does not comply with conditions in the first warning letter, then payments are suspended. The committee secretary then sends the project a **second warning letter** indicating that payments have been stopped and the conditions upon which JISC would be prepared to resume payments.

If the project does not comply with the conditions in the second warning letter, then the project is deemed to have failed. The committee secretary will send the project a **final warning letter** indicating that the project has failed, the amount (or percent) of project funding that must be repaid to JISC, and the procedure by which this will be done.

5. Project Web Site at Lead Institution

Projects must also create their own web site as a dissemination tool to inform the community about the project, progress, and results. This can be in the form of a blog or wiki if it suits the nature of the project.

Where the project page on the JISC web site is a simple page in standard format, the project web site is a dynamic showcase of what the project is doing, achieving, and learning. It should be continually updated throughout the project to explain progress and results, and it should include project plans and reports, articles published and presentations given, and project deliverables of interest to the community.

Projects must create their web site within 3-months of the project start (for short projects e.g. 6 months this should be within 1 month). When the project web site is up and running, the URL should be added to the project page on the JISC web site so the community can follow the link. The institution must host the project web site on their server for at least **3 years** after the end of the project and assist JISC in archiving it subsequently. For projects with multiple partners, the lead institution will host the web site. The programme manager will inform any projects within the programme that do not have to create a project web site. For very short projects (e.g. 4 months) and supporting studies creating a report as the deliverable, a project page on the JISC web site is normally sufficient.

Acceptance criteria for project web sites include:

- **Content** – As a minimum this should include project aims and objectives, methodology, outputs and outcomes envisaged, timing, project partners, progress to date, and contact details
- **Project outputs** – There is a place for posting project plans and reports and project deliverables that may be of interest to the community
- **Structure** – It's well structured and organised
- **Standards** – It adheres to JISC standards for web sites including accessibility for disabled users.

6. Communication

JISC requirement – Projects must join any JISCMail lists set up by the programme manager to facilitate communication within and across programmes.

6.1. Communication with JISC

The programme manager is your contact for communication with JISC. The programme manager will set up an email list on the JISCMail service to inform project staff about important developments within the programme, circulate documents, announce events, or remind projects of deadlines.

The programme manager will also communicate with projects personally. For example, s/he will call from time to time to find out how the project is getting on, send feedback on your progress reports, and may visit the project occasionally.

It's very important to let the programme manager know if you have any questions or are having any problems. For example, contact the programme manager by phone or email if you think you will have problems meeting a deadline or if there are issues within the project you want to discuss. Together you can work out a solution. Contact the programme manager as soon as problems and issues arise. If small problems are dealt with early, there's less chance that they will become big problems.

6.2. Communication within the Project

Similarly, it's important to develop effective communication channels within the project, especially where more than one institution is involved. The project manager should keep all project staff informed about deadlines, meetings, and any information received from JISC.

Projects may want to read *Managing a Distributed Development Project: The Subject Portals Project*. This case study by the JISC-funded RDN Subject Portals Project (SPP) describes how they managed communication for a software-related project. The programme manager may be able to suggest other techniques for good communication within the project.

6.3. Communication with Peers

There will be opportunities to meet other projects working on related topics within the programme and in other programmes. For example, there will be programme meetings and, depending on how the programme is structured, there may be cluster groups or special interest groups. JISC may arrange cross-programme workshops on particular themes. These are all opportunities to meet colleagues with similar interests and to network.

JISC will facilitate communication by setting up email discussion lists on relevant topics and themes. Use the lists to stay in touch with your peers, share ideas and experience, and ask questions. For example, if you're puzzling over a technical issue, someone on the list may have a solution. If you've had a success, share it with the list. There are also many other national and international email discussion lists on a range of topics. The programme manager will inform you about any email discussion lists that JISC sets up on relevant topics, and about any lists outside of JISC you might want to join.

6.4. Programme Web Site

Each programme has a page on the JISC web site. The programme manager may use this page (or one linked to it) to post information relevant to the programme, e.g. programme meeting schedules, meeting agendas, presentations given at programme meetings, reports of interest, etc.

A number of JISC programmes such as the [Users and Innovation programme](#) are currently piloting the use of blogs and other web 2.0 technologies to improve communication across the projects within their programme and beyond. JISC encourages projects to be innovative with their own communication.

7. Open Access

The terms and conditions of grant for JISC projects supports unrestricted access to the published output of publicly-funded research and wishes to encourage open access to research outputs to ensure that the fruits of UK research are made more widely available.

JISC firmly believes in the value of repositories as a means of improving access to the results of publicly-funded research and is investing significantly in this area. As part of this, JISC is funding 'The Depot'; a repository which can host research outputs should institutions not have a repository in which to deposit. A [national support project](#) is also available to help institutions develop repositories and share practice.

In future, JISC expects that the full text of all published research papers and conference proceedings arising from JISC-funded work should be deposited in an open access institutional repository, or if that isn't available, 'The Depot' or a subject repository. Deposit should include biographical metadata relating to such articles, and should be completed within six months of the publication date of the paper.

Which version of the article should be deposited depends upon publishers' agreements with their authors but JISC mandates that articles should be made available through publishers that adopt the [RoMEO](#) "green" approach as a minimum (for further information see). Authors should go to another journal if the journal chosen does not adopt the RoMEO "green" conditions.

JISC mandates the deposit of the native version (Word, PPT, etc.), with PDF as well if wanted, but certainly with a format from which usable xml can in principle be derived (not PDF).

8. Preservation

JISC requirement – JISC will archive all project deliverables and core project documents, and the lead institution must assist JISC in archiving the project web site.

In line with JISC's strategy for preservation, all project outputs will be archived to ensure there is a permanent record of project work:

- **Project deliverables** – These will be deposited in an appropriate JISC data centre or managed repository.
- **Core project documents** – These will be deposited in the JISC records management system so they are accessible to the JISC Executive.
- **Project web sites** – The lead institution (or one of its partners) will host the project web site on their server for a minimum of 3 years after the project ends and assist JISC in archiving it subsequently.

9. Legal Issues

The letter of grant and Terms and Conditions cover the institution's legal obligations with respect to intellectual property rights, accessibility, data protection, and freedom of information. Two JISC-funded services can provide institutions with further help and advice on these issues.

- The JISC Legal Information Service (<http://www.jisclegal.ac.uk/>) provides legal resources for HE/FE, especially for those working in information services areas. JLIS provides briefing documents that explain the law and how to comply, and the web site has links to other useful sites. JLIS also sponsors workshops and other events and has an email enquiry service. Legal topics covered by JLIS include data protection, intellectual property, human rights, freedom of information, disability and the law, e-security, cyber-crime, and Internet service provider liability.
- TechDis, the Technologies for Disabilities Information Service (<http://www.techdis.ac.uk>), provides information and advice on the use of technology to enhance access to learning and teaching, research, and administration activities for people with disabilities. TechDis has an extensive database of knowledge and information, provides an email helpdesk, and sponsors workshops on disability issues.

For further guidance on legal planning please read [Legal Planning for JISC Projects](#) and the [Legal Planning Process](#).

10. Intellectual Property

JISC requirement – JISC projects are funded on the condition that project outputs are made available to the UK HE/FE community. Ownership of IPR is covered in the circular/ITT and letter of grant. Projects must ensure that project outputs do not infringe intellectual property rights of third parties and obtain written permission for any intellectual property they incorporate.

As a general rule, JISC does not seek to retain IPR in the project deliverables created as part of its programmes. However, funding is always made available on the condition that project outputs are made available, free at the point of use, to the UK HE and FE community in perpetuity, and that these may be disseminated widely in partnership with JISC. Where JISC is funding the creation of a national service for the community, there may be a need for HEFCE, on behalf of JISC's funding partners, to retain ownership of certain rights in order to maintain flexibility of future provision and availability of the service.

For outputs, such as reports or model strategies, a non-exclusive licence allowing JISC or its representatives to utilise, archive and disseminate the work will be required.

As noted above, the ownership of IPR will be indicated in the funding circular/ITT and in the letter of grant. There are two situations in which JISC might to seek ownership of IPR created by a project:

- **Studies where the main deliverable is a report** – JISC normally indicates that the IPR in the report and any information gathered during the course of the study (and not already in the public domain) will become the property of HEFCE on behalf of JISC.
- **Services for the FE/HE sectors** – Where a development project results in a pilot service intended to become a full service when the project ends, JISC normally indicates that that the IPR created by the project will become the property of HEFCE on behalf of JISC, and that the institution(s) must agree to license their own IPR necessary to run the service after the project ends.

JISC's position on ownership of IPR will vary depending on the programme and the specific project. However, in all cases the principle behind it is to make the outputs of development accessible to the education and research communities. In some cases, it may be appropriate for the institutions to exploit their IPR after the project ends. Such exploitation would be planned in consultation with JISC and must be without detriment to the JISC community.

11. Standards

JISC requirement – Projects must adhere to JISC standards guidelines and list in the project plan the specific standards they intend to use.

Open standards should be used wherever possible, and any deviation from these should be justified in the project in their original proposal and any alternative interface specifications should be designed with re-use by others in mind. The JISC recognises that emergent technologies lack the maturity of standards of some existing technologies. Interoperability and data transfer are key to the provision of next generation technologies for education and research, and projects are expected to work with JISC to address these issues.

Relevant standards can be found in the [JISC Standards Catalogue](#) and further guidance on standards and their stipulation will be provided by the programme manager.

Projects must list in their project plans the standards (including versions) they plan to use, and this must be agreed with the programme manager. Any deviations from the standards JISC recommends must be agreed with the programme manager and documented in the project plan.

Projects are expected to adhere to these standards for the duration of the project. However, there may be cases where it's useful to revisit standards agreed at the start, e.g. where a long running project needs to interoperate with other projects that have started later. Where continuing to use a standard would impact on the value of project deliverables, then changes may be renegotiated with the programme manager. Any decisions to change the standards used require JISC approval.

Projects are encouraged to use compliance testing tools wherever appropriate. Effective tools are a valuable way of easing the construction and maintenance of standards compliant applications and data. They exist in many areas including HTML compliance, metadata maintenance, accessibility testing and conformance to SCORM standards, and viewing XML schemas. The UKOLN and JISC CETIS web sites possess numerous references and UKOLN use checking tools on many of their published pages.

11.1. IE Standards

[UKOLN](#) provides guidance for projects on standards related to JISC's [Information Environment](#). UKOLN has developed the overall architecture for the IE and set out the key standards that must be adopted in areas like interoperability, metadata, web standards, and file formats. Pages of interest on the UKOLN web site include the following:

- [Architecture of the IE](#)
- [Summary of standards for the IE](#)
- [Interoperability Focus](#)
- [Metadata](#)
- [Distributed systems](#)

11.2. Learning Standards

[JISC CETIS](#), the Centre for Educational Technology Interoperability Standards, advises universities and colleges on the strategic, technical, and pedagogic implications of educational technology standards and represents UK Higher and Further Education on international standards initiatives. JISC CETIS manages UK Implementation Groups examining IMS specifications, including:

- Metadata
- Educational content
- Question and test
- Enterprise
- Accessibility
- Learner information

These SIGs have information about their activities and links to relevant specifications.

12. Software Licensing and Quality

It is expected that software outputs will normally be licensed as open-source unless a case has been made to the contrary and accepted by the bid evaluation panel. Projects should make clear the licence, under which software outputs will be released, mechanisms that will be put in place for community contribution (users and developers) throughout the project, and the sustainability plan for the software beyond the period of project funding.

Projects should consult with JISC's open source software advisory service [OSS Watch](#) and the [Open Middleware Infrastructure Institute UK](#) on matters relating to open source software development.

Projects should have read and be compliant with [JISC's Policy on Open Source Software for JISC Projects and Services](#).

To be able to re-use the software it must be of a certain quality and maturity. For example, it must have supporting information, FAQ, installation guides, test data etc. to help others use it. In addition to the advice from the OSS Watch and OMII-UK, elements that contribute to software quality and project maturity are outlined in the [Software Quality Assurance \(QA\) and Open Source Maturity Model \(OSMM\) Development guidelines](#). Projects will be expected to follow the recommendations from these sources of guidance.

13. e-Framework

The [e-Framework for Education and Research](#) is an international initiative, by JISC and Australia's Department of Education, Science and Training (DEST), to explore the potential benefits of applying a service-oriented approach to the provision of ICT infrastructure for education and research, and where successful to support its broader adoption by institutions and their suppliers.

The e-Framework informs all JISC Development Programmes seeking to ensure that their outputs, both in the form of knowledge and software:

- Can be built on by following the progress of programmes & projects so that they become cumulative (encouraging the use of open standards and modular component software & services);

-
- Form a basis for stakeholders and developers to collaboratively develop practices and processes integrally with the supporting ICT (through the development of domain maps, good practice and process models);
 - Can be discovered and successfully adopted by any institution that wishes to benefit from the vast information and/or services available (through institutional and developer use, and project contribution to, the e-Framework Website).

All project should consider carefully how they relate to the e-Framework agenda. Projects should make allowance of two person days per year to contribute to the e-Framework as part of their project plan. Further information and guidance about how projects can [engage with the e-Framework](#) can be found on the JISC e-Framework web site.

14. Accessibility

In line with Government legislation and social exclusion initiatives, JISC is committed to providing resources that are accessible to a diverse range of users. In order to achieve this, all software and IT resources including the project web site should meet good practice standards and guidelines pertaining to the media in which they are produced.

Advice and recommendations for ensuring that IT based systems, tools and resources are accessible by all can be found in the resource section of [TechDis](#), the [Technology for Disabilities Service](#). Further advice and consultancy is available from the TechDis Centre itself.

15. Dissemination and Working with Other Organisations

15.1. JISC Guidelines on Publicity and Dissemination Materials

JISC requirement – Projects must adhere to JISC guidelines on publicity material ensuring JISC is acknowledge as the funder and the JISC logo is displayed.

The JISC Communications and Marketing team has put together a [toolkit for JISC staff planning publicity](#). In future they may develop a similar toolkit for projects, but in the meantime there are several documents that projects may find useful:

- **JISC style guide** – A useful guide to punctuation, spelling, acronyms, abbreviations, etc
- **Writing a JISC press release** – Do's and don'ts of writing an effective press release
- **Organising an event** – Guidelines on how to plan an event, with useful checklists and other attachments
- **Referring to JISC** – Clear guidelines on how to refer to JISC and its web site
- **Using the JISC logo** – Clear instructions on how to use the JISC logo with electronic versions to download in several file formats and sizes.

In any publicity material about the project it is essential to include an indication that the project was made possible by funding from the JISC. Projects should follow the guidelines in the toolkit on how to acknowledge JISC and use the JISC logo.

Projects may find the documents on style, press releases, organising events, and other topics useful. Keep in mind that they are aimed at JISC staff creating JISC publicity materials, not projects planning their own

dissemination, so follow the JISC approach where it's useful. Projects may find that their own institution has guidelines for publicity and may want to consult these as well.

15.2. Working with Other Organisations

JISC works with a wide range of national and international organisation and [partners](#).

Strategic partners

- [Becta](#) (British Education and Communications Technology Agency), UK
- [British Library](#) UK
- [Higher Education Academy](#) (The Academy), UK

Associate partners

- [Digital Library Federation](#) (DLF), USA
- [Association for Learning Technology](#) (ALT), UK
- [UCAS](#) UK

International partners

- [Department for Education, Science and Training](#) (DEST) Australia
- [Internet2](#) USA
- [Knowledge Exchange](#) pan European
- [SURF Foundation](#) The Netherlands
- [Ministry of Education](#) New Zealand

As a JISC project you will be seen as part of JISC and as such any interaction you have with other organisation will reflect on JISC. Projects should be aware of [JISC partners](#) and [partnership policy](#) and inform the programme manager of any activity they wish to undertake or are involved in with national and international organisation and partners.

III. Project Planning Guidance

This section of the Project Management Guidelines guides projects through developing the project plan. Each numbered section below corresponds to an equivalent section in the project plan template. Read the guidelines and then use the template to build the plan. The topics are grouped so that the project plan is structured as follows:

- **Overview of the project** – A summary of what the project involves, e.g. background, aims & objectives, overall approach, outputs, outcomes, stakeholders, risks, standards, technology, and intellectual property
- **Project resources** – The resources for conducting the project and how they will be managed, e.g. project partners, project management, programme support, and budget
- **Detailed project plans** – The detailed plans necessary to implement the work, e.g. workpackages, evaluation plan, quality plan, dissemination plan, and exit/sustainability plan.

The project plan you develop will map out the project work and show how you intend to achieve your objectives. However, plans are plans, and as work progresses, you will probably want to update the plan. Some of the topics below have a section called 'Review as you Go'. This highlights things to think about as you go along. As work progresses, take time out to think about how things are going, what you're learning, and whether you need to adjust the plan.

Further guidance on [project management](#), [risk management](#), [contract negotiation](#) and [change management](#) can be on the [JISC Infonet web site](#).

Overview of the Project

1. Background

In the project plan, there should be a clear and concise argument explaining why you are undertaking the project and why the work is important. This section doesn't need to be long or detailed, but it should make a convincing business case for the work. It should include:

- **Background information** – What has been done to date, in previous or parallel initiatives, and how you will build on this
- **Need** – Outline the need for your work, why it's important and needs to be done.

1.1 Review as you Go

Throughout the project, refer back to this statement of need. It's a useful reality check to make sure that project work is going in the right direction and will fulfil the need you outlined. In a world of fast-moving development in ICT, it's equally important to know if 'things have moved on' and the need you perceived at the start of the project is starting to be filled by other initiatives. If this happens, discuss it with the programme manager, and you can develop an action plan to reshape the project.

2. Aims and Objectives

In this section of the project plan, briefly summarise the overall aim of the project and the specific objectives.

2.1 Aim

The aim or goal of the project will probably be a broad statement of the problem you intend to solve or what you intend to achieve.

2.2 Objectives

Objectives are derived from the broader aim, but more specific and measurable. They set the realistic targets to achieve during the project. Projects should use best practice in project management and set 'SMART' objectives. This means that objectives should be:

- **Specific** – Clear about what will be achieved
- **Measurable** – It's possible to quantify results and measure when they have been achieved
- **Achievable** – They *can* be achieved
- **Realistic** – Attainable with within project resources
- **Timed** – Attainable within a specified timescale.

2.3 Review as you Go

Aims and objectives set out what you plan to do. They give the work direction and allow you to focus on results. They are the basis for developing plans that show how you will achieve them. Throughout the project, revisit your objectives and measure what you have achieved. At the end, they will allow you demonstrate that you *have* achieved what you set out to and the project is a success.

3. Overall Approach

This section of the project plan sets out the overall approach you will take to achieve the objectives you have set. This isn't a long workplan, but a simple, clear picture of what you will do and how. It should address the following points:

- **Strategy and/or methodology** – How you will achieve the objectives
- **Issues to be addressed** – List any important issues highlighted in the programme circular/ITT and say how they will be addressed, e.g. interoperability, collaboration, evaluation
- **Scope and boundaries** – Clearly indicate what will and will not be covered
- **Critical success factors** – List 3-4 factors which are important for the project to be successful.

3.1 Strategy / Methodology

The project strategy or methodology is very important. For most projects, there is more than one way to approach the work and achieve the objectives. You will probably think through several methods, assess the pros and cons, and come up with the one that's best. You may want to look at other JISC development projects and see how they approached the work. The important thing is to demonstrate that the approach is right for your project and will achieve the objectives.

3.2 Scope and Boundaries

It's important to indicate the scope and boundaries of the project, so there are no misunderstandings later on. You might want to take a 'who, what, where, how' approach and think through the scope in terms of deliverables, users, departments, sites, etc. Also consider any constraints imposed by your institution that could affect the scope.

3.3 Critical Success Factors

Critical success factors are also important. These are factors on which the success or value of the project depends. Think of 3-4 processes or events which will be very important, emphasising the positive things that need to happen. For example, if you're building a prototype system to demonstrate feasibility, then scalability and sustainability may be critical success factors. If you're developing a portal, then usability and interoperability may be a critical success factors. If you're developing learning objects, the pedagogical quality may be a critical success factor. It may help to think about your stakeholders and their expectations, so review your critical success factors after you've done the stakeholder analysis (Section III-6).

4. Project Outputs

JISC requirement – Projects must submit the deliverables specified in the agreed project proposal according to the schedule in the project plan. Deliverables are subject to approval by the JISC Executive.

Project outputs are what the project will create. Most projects create two kinds of outputs:

- **Deliverables** – The tangible outputs like content, software, guidelines, etc
- **Knowledge and experience** – The less tangible outputs that should be documented and shared with JISC and the wider community

In the project proposal, the project has listed deliverables it plans to create. When writing the project plan, review the list, see if any have been missed out, and make a final list. Think also about the knowledge and experience you will develop, and how this can be shared in a tangible form.

Projects will also develop and submit core project documents, the plans and reports that support project work (Section II-4). These are part of the project planning and monitoring process and need not be listed in this part of the project plan.

4.1 Deliverables

Make a full list of the project deliverables using the checklist below and include them all in the project plan.

- Case studies
- Content
- Demonstrators
- Events, e.g. workshops
- Guidelines
- License agreements
- Methods
- Models
- Pilot services
- Prototypes
- Reports
- Scenarios
- Software
- Specifications
- Technical designs
- Technical manuals
- Tools or toolkits
- Training packages or tutorials
- User interfaces
- User manuals

4.2 Knowledge and Other Outputs

Think about the knowledge, know-how, and experience you will develop in your project and how you will share it. The project final report is one way to share project work with the community, as are papers at conferences and published articles in journals. The project completion report is one way to share with JISC your thoughts on the project and how it turned out. But focus on the knowledge and experience you will gain and how you will share this with the community. You might want to develop a case study, or write up some hints and tips and post them on your project web site. If the knowledge and experience you've developed has real critical mass, you may want to act as consultants or advisors to other projects. Start thinking now about how to share the knowledge you will have at the end of the project.

4.3 Review as you Go

During the project, take time to reflect on your work. Get the team together from time to time and make a cup of tea. Have an informal reality check. Are these the right deliverables? Will they achieve the objectives set at the start of the project? Has technology moved on? In most cases it hasn't, and you will have enjoyed the tea. But it could be that new tools and techniques are available, and there are other ways to approach the work and achieve the objectives. By adopting a new tool or approach, you might be able to do the work faster or better, or in a more innovative way. If things are changing and you have new ideas, talk them over with the programme manager. You might agree to change one deliverable with another, or adopt different methods that change the schedule. S/he wants you to succeed and for your success to contribute to the programme's success.

5. Project Outcomes

Projects are about change. Project outputs, whether tangible deliverables or the more intangible knowledge and experience gained along the way, will lead to change. A MLE will change how teachers teach or how students learn. A portal will change how students and researchers access information. Content that's digitised and made available to a wide audience will empower them with knowledge they may not have been able to access previously.

In this section of the project plan, list the outcomes you envisage, the changes your project will stimulate or enable, and their likely impact on the teaching, learning, and research communities. Outcomes are quite distinct from the deliverables you will create. Think of what people will be able to do better, faster, or more efficiently, or things they could never do before. Then think of the impact that this will have on users, their institutions, and on the education and research communities generally. You may not be inventing the PC or the mobile phone, but you will be initiating change.

5.1 Review as you Go

Throughout the project, reflect on the outcomes you envisage and how they will happen. Some things happen as a matter of course, but others need help. Dissemination will be important for take-up. Getting a buy-in from stakeholders could be as well. Don't wait until the end of the project and say that nothing has happened. Think about how you can be proactive and make it happen.

6. Stakeholder Analysis

A stakeholder is anyone who has a vested interest in your project or will be affected its outcomes. At the start of the project, it's essential to do a stakeholder analysis. This simple but important exercise will help you understand who will be important to the success of your project and why, so you can then decide how to involve them. To conduct the stakeholder analysis:

1. List the stakeholders
2. Identify their interest or 'stake' in the project
3. Assess their importance

In the project plan template, there's a table where you can record this information, e.g.

Stakeholder	Interest / stake	Importance

6.1 Stakeholders

There will be stakeholders within your institution and outside. Use the table below as a guide and identify the stakeholders relevant to your specific project. At this stage, think of anyone who could be affected by the project and its outcomes, or whose support could be valuable to you.

Stakeholders within the Institution/Project	External Stakeholders
Vice chancellor	Funding bodies
Administrators	Other institutions
Teaching staff	Publishers
Research staff	Software developers or vendors
Students	Online hosts
Technical staff	Standards organisations
Learning technologists	Other organisations
Librarians	JISC partners
Users (may be any of the above)	Other JISC projects or programmes

6.2 Stake in the Project

Next think through why they will be interested in or affected by the project, and what their stake is. For example, if you're developing a MLE, then teaching staff and students have a stake in the project if they will have to use it. The Vice Chancellor and senior administrators will also have a stake in the project, as it will affect how learning and teaching is done. If you're developing a portal, technical staff at the institution may have a stake in the short term, and the publishers whose content you may want to include may have a stake in the long term. Be creative and think of how each stakeholder could be affected, either positively or negatively, and this will help you decide who you need to get on board to make the project a success.

6.3 Importance

Finally, assess the importance of each stakeholder. Decide how important each one is, how much you need their support, and the consequences if you can't get it. This is rather like identifying the critical success factors, but it's about who rather than what. If the Vice Chancellor, senior administrators don't buy into your MLE, you may have no project.

6.4 Taking it Forward

Once the stakeholder analysis is done, you've probably identified 3-4 key stakeholders that are really important to the success of your project. Now you can plan how to get their support and ensure that project outcomes affect them positively. You will probably need a 'champion' within the institution to ensure your project has a high profile. Depending on the project, this might be a teacher, an administrator, the head of IT, or a librarian. You might want to invite them to join your management committee. Your dissemination plan (Section III-18) might include regular updates in the institution's newsletter. If end users are important, e.g. students, researchers, or teachers, you will want to address user needs in your evaluation plan (Section III-16). The stakeholder analysis is the starting point for deciding what stakeholders are important and how to enlist their support as you plan the project work.

6.5 Review as you Go

During the project, return to the stakeholder analysis and see how you're doing. Have you got the key stakeholders on board? Are you involving them or talking to them regularly? Do they know what you're doing? Are they giving you feedback? If you don't think you're getting the support you need, discuss it informally within the project team. Have a brainstorming session to see what other approaches you could try. If you can't come up with any, discuss it with the programme manager. S/he may have some good ideas that have worked with other projects.

7. Risk Analysis

All projects have an element of risk. Even in the best-planned projects there are uncertainties, and unexpected events can occur. A risk analysis at the start of the project will help you predict the risks that could prevent your project from delivering on time or even failing. It will also help you to manage the risks should they occur. A risk analysis addresses the following questions:

- What could possibly go wrong?
- What is the likelihood of it happening?
- How will it affect the project?
- What can be done about it:

7.1 Identifying Risks

In any project, the project manager could get ill at a critical time or the building could burn down. Focus on risks related to your particular project, not project management in general. These might be related to:

- **Staffing** – What if you can't hire staff soon enough? What if they don't have the right skills? What if a key member of the team leaves?
- **Organisational** – What if you can't get a buy-in from your institution? What if they don't deliver the support they promised? What if an institution withdraws from your project consortium? What if you can't get take-up? Could there be cultural problems, e.g. working with vendors?
- **Technical** – What if you can't get equipment soon enough? What if it costs more than you estimated? What if the methodology doesn't work?
- **External suppliers** – What if they don't deliver on time? What if they go bust?
- **Legal** – What if you can't get permissions from content owners? What if legal agreements take longer than you think? What if there are legal problems with IPR or data protection?

7.2 Analysing Risks

In the project plan template, there's a table where you can analyse the risks:

Risk	Probability (1-5)	Severity (1-5)	Score (P x S)	Action to Prevent/Manage Risk
Staffing				
Organisational				
Technical				
External suppliers				
Legal				

1. List the potential risks
2. Assign a probability to each risk (1 is low, 5 is high)
3. Assess the severity should the risk occur (1 is low, 5 is high)
4. Give each risk a score (probability times severity)
5. For the highest scoring risks, plan how you will prevent them happening (or manage them if they occur)

7.3 Preventing and Managing Risks

It's probably obvious why a risk analysis is done at the start of a project instead of half-way through. This way you can think about the risks that might occur and prevent them from happening. For example, if it's essential that suppliers deliver on time, make sure your agreement has penalty clauses for late delivery. If it would be devastating for a project partner to leave the consortium, think of ways to keep them on board, and make sure your consortium agreement (Section III-11.1) has clauses for resolving disputes and spells out obligations if one does leave.

If a risk does occur, think how you will manage it to minimise its impact on the project. You may want to have some contingency in the budget for unforeseen expenses, or some slack in the project schedule in case of delays. If a project partner does leave, think through whether the remaining partners should share the work or recruit another.

7.4 Review as you Go

During the project, keep an eye on the risks. Look for early warning signs that indicate a risk is about to occur. If a project partner seems uncommitted and isn't pulling their weight, someone should have a quiet chat with them off the record. If the project manager doesn't feel comfortable doing this, ask the programme manager to. The partner may feel their views aren't being heard at meetings or their work isn't valued. Get the issue out in the open and take remedial action before they decide to leave the consortium. If the worst happens and a partner leaves, a supplier goes bust, or you can't get an important buy-in, talk to the programme manager. The chances are it's happened in another project and s/he can help you with what to do next.

7.5 Further Resources

- JISC InfoNet has resources for planning and implementing information systems in HE/FE. Their [InfoKit on Risk Management](#) is excellent. It explains what risks are, how to do a risk analysis, and how to manage risks during the project.

8. Standards

8.1 In the Project Plan

Projects should consult the programme manager about the programme's overall approach for standards and JISC guidelines in this area. The project plan template has a table that projects should use to record the specific standards they plan to use for the project. Information on relevant standards can found in the [JISC Standards Catalogue](#).

Name of standard or specification	Version	Notes

Projects should indicate:

- Any deviations from the standards that JISC recommends.
- Where choices exist in an area, the reasons for the standards selected.
- Where proprietary standards are selected in an area where open ones are available, the reasons for their use and their scope of deployment.

9. Technical Development

JISC requirement – Projects must follow JISC guidelines on best practice and list in the project plan any specific technologies or development approaches they intend to use.

JISC does not prescribe how projects should perform technical development, but it does expect them to follow best practice. Before developing detailed technical plans, projects should consult any background resources mentioned in the programme circular or ITT.

9.1 Software Development

Any software development should follow a defined development process/methodology that is suitable for the type of development beginning undertaken. JISC does not stipulate a single methodology but does require a project to define the process or methodology it will follow. The development process/methodology should be clearly stated in the response to any circulars/ITTs and form part of the project quality plan.

9.1.1 Requirements

- Requirements that are not stated in detail in a circular/ITT should be specified at the earliest opportunity in the project life cycle.
- UML use cases, scenarios, and class diagrams should be used to express requirement/functional specifications. This may be supported by other methods of capturing and expressing requirements.
- Requirements should be base lined through the configuration management process to scope exactly what the software will do within each release. Changes to requirements must follow the change control process defined by the project.
- Requirements should be reused in developing test plans and user documentation.
- Well-defined requirements should describe the software's externally-perceived functionality and properties. Requirements should be clear, complete, reasonably detailed, cohesive, attainable, and testable. A non-testable requirement would be, for example, 'user-friendly' (too subjective).
- Where rapid development and agile development methods are used, requirements are refined through close interaction and cooperation between programmers and users.

9.1.2 Design

- Design of the logical/functional and physical/internal system should be express using UML.
- Good internal design is indicated by software code whose overall structure is clear, understandable, easily modifiable, and maintainable; is robust with sufficient error-handling and status logging capability; and works correctly when implemented.

9.1.3 Coding

- Coding of software should follow the stated design.
- Coding and annotation standards must be consistently applied.
- The project should apply the standard for coding and annotation consistently as defined in the project quality plan.
- Code should be modular, tidy and well documented internally (annotated).

9.1.4 Quality Control and Audit Processes

Projects should define the quality control procedures/techniques they will use. The quality control process should indicate:

- When or at what stage testing will take place
- How it will be carried out
- How results/faults will be recorded
- At what level software will be tested
- Any testing tools that will be used.

The quality control process can be viewed as a high level testing strategy. The audit process is the ability to trace back the tests/checks that have been performed as part of quality control. This is useful for tracing software faults and may be required as part of the project's acceptance criteria to allow JISC or an external evaluator to review the rigour to which the software was constructed.

9.1.5 Change Control and Configuration Management Processes

Projects should define and implement a change control and configuration management process to ensure:

- Software and documentation is base-lined and version controlled
- Software and documentation is securely stored (e.g. CVS, Subversion, Source Safe or www.sourceforge.net)
- Intermediate versions of software are retained
- Changes to software and documentation are controlled, authorised, and auditable
- Releases of software and documentation have been quality assured (i.e. tested, versioned, and documented).

Change control is the process by which a project controls any changes to the project plan, scope, budget, specifications, requirements, deliverables, standard of quality, timescale are assessed and agreed/rejected. This can be as simple as a weekly project meeting where changes are discussed, documented in meeting minutes and actioned. It is important to define who has authority to accept or reject changes to the project. Any change to the original project plan, software specification, or user requirements should be traceable via audit and the reasoning for that change clearly recorded. A useful technique for documenting and managing change control is the use of an issue log which records all issues, requests for change and software faults/off-specification (e.g. test failures, over due software components). Held in the form of a spreadsheet this can be used to provide an agenda for the weekly project meetings, record actions/decisions, and provide an audit trail.

Configuration management is the control of anything produced by the project (e.g. documents and software) providing the mechanism for managing, tracking, and keeping control of all the projects deliverables. For software this will take the form of a software storage system (e.g. CVS, Subversion, Source Safe, or <http://sourceforge.net>) that safely stores, versions, controls access to, and records status of the software.

9.1.6 Testing

- Testing plans and cases should be produced during design based on requirements and design specifications.
- Testing should cover unit, module, system, integration, load and user testing.
- A range of testing methods/techniques may be used e.g. automated testing.
- Testing procedures should be auditable, i.e. results, faults and fixes are recorded and traceable.
- Testing forms part of the configuration management process as only after software has been tested/quality checked can it be versioned and stored/released.
- Consideration should be given to the relevant standards compliance and interoperability tests that need to be undertaken especially when developing standards based and open source software.
- Projects should stage development to release incremental working but incomplete versions of software.

9.1.7 Documentation

- Projects are expected to produce user, requirements, design, and system documentation.
- Projects must provide requirements, design, and system documentation in UML version 1.4, and submit documentation in the source format (e.g. Word, Excel, Visio) and the open source format PDF unless otherwise agreed with JISC.
- Documentation should be produced throughout the life of a project, in line with the software development acting as an audit trail. The production of documentation is not to be left until the end of a project.
- Documentation must be in PDF and its original source format.
- Criteria for the acceptance of documentation will be defined by the JISC programme manager.

9.2 In the Project Plan

After consulting these resources, projects should include a brief section in the project plan explaining how they will follow best practice for technical development, listing any particular technologies or development approaches they plan to adopt and why.

9.3 Further Resources

Various projects and advisory services affiliated with JISC can also offer guidance on best practice:

- Digitisation – [AHDS – The Arts and Humanities Data Service](#) has an [Introduction to Creating Digital Resources](#), plus other guides and case studies.
- Digital Images – [TASI](#) – The [Technical Advisory Service for Images](#) has guidelines on all aspects of digitising images and creating image archives. They also offer training courses.
- Technology – [TechWatch](#) – [Technology and Standards Watch](#) keeps track of developments in ICT that may impact on education. They commission reports on important technical and standards issues, and have links to resources for over 100 specific technologies.
- [QA Focus](#) was a post supporting the IE programmes to ensure that project deliverables were interoperable and projects adopted standards and best practice. The QA Focus web site has best practice briefing papers on a range of topics, including digitisation, web sites, metadata, and software.

10. Intellectual Property

10.1 Ownership of IPR within the Project

Projects should think through how IPR will be handled within the project. If the project involves more than one institution, provisions for IPR should be covered in the consortium agreement. Projects may wish to read the paper on managing IPR in consortia on the JISC Legal Service web site (see 'further resources' below). They may also want to discuss IPR with their institutional department that handles collaboration, technology transfer, or innovations. Issues to consider include:

- What IPR owned by the project partners at the *start* of the project (background IPR) can be used by the others during the project?
- Who will own the IPR created *during* the project (foreground IPR)? Will it be owned by the partners jointly or will the partner that created a deliverable own and be responsible for the IPR?
- Is IPR created by staff (or students) owned by them or the institution, and will any releases be needed?
- How will any exploitation of IPR developed by the project be handled when it ends?
- If a commercial partner is involved, what IPR will they own and what IPR can they exploit after the project ends?

How IPR is handled will depend on the project, its deliverables, and in some cases by the policies of the institution(s). Think about the deliverables, what makes sense in terms of how they will be used, and what will happen to them after the project ends. Here are two scenarios:

- **Learning materials** – It probably makes sense for each partner to own the learning materials they create. Each partner would clear any third-party permissions for the learning materials they create, secure any necessary releases from staff, and their institution would sign the licence agreement to make them available to JORUM.
- **Software or technical deliverables** – Each deliverable could be owned by the partner that created it or they could be owned by the partners jointly. However, it probably makes sense for one partner to administer the IPR for each deliverable and be responsible for licensing. Only a legal entity can sign a licence agreement, so unless the partners form a legal entity to administer IPR, it's probably simpler for one of the institutions to act for them.

These are simply scenarios for project to consider and *they don't constitute legal advice*. Institutions should think through the IPR implications for their particular project and the deliverables they will create, and where appropriate consult the JISC Legal Information Service.

10.2 Third-Party Rights

Institutions and their partners must ensure that deliverables do not in any way infringe copyright or other intellectual property rights of any third party. Projects must familiarise themselves with intellectual property and copyright law and ensure that they abide by it. The [JISC Legal Information Service](#) has a web site that explains IPR, has publications and other resources, and provides an email enquiry service.

If projects wish to include materials where copyright or other intellectual property rights are owned by a third party, they need specific permission from the owner. For content creation projects, third-party rights should be cleared before digitisation begins or cleared in stages as a managed part of the creation process. Rights need to be cleared for networked delivery of these resources for learning, teaching and research. It is a matter for institutions or other partners to ensure that their rights are adequately protected. Consult your programme manager if you have any questions about how to proceed.

Projects may wish to consult some of the guides listed in the 'further resources' below. The paper by AHDS covers copyright for digitisation projects, and the one by John Casey covers e-learning materials.

10.3 In the Project Plan

- Indicate who will own the intellectual property created by the project
- List any intellectual property owned by third parties that will be incorporated into project outputs, when/how you will obtain permission to use them, and any implications for project outputs after the project ends.

10.4 Further Resources

- Legal Planning – [Legal Planning for JISC Projects](#) and the [Legal Planning Process](#), Andrew Charlesworth, Centre for IT & Law, University of Bristol, 2006.
- IPR – The [JISC Legal Information Service](#) provides legal resources for HE/FE, especially for those working in information services areas. Their web site has briefing documents, publications, and links to other useful sites on IPR. They also sponsor workshops and have an email enquiry service.
- IPR – The [UK Government portal on intellectual property](#) covers all aspects of intellectual property including copyright, designs, patents, and trade marks. There are some very useful FAQs.
- Copyright – Charles Oppenheim, [Recent Changes to Copyright Law and the Implications for FE and HE](#), 2004.
- Learning Materials – John Casey, [Intellectual Property Rights \(IPR\) in Networked e-Learning: A beginner's guide for content developers](#), 2004. A useful guide developed for the JISC Legal Service by one of the X4L projects.
- Learning Materials – [Intellectual Property Rights in E-Learning Programmes](#), report of the working group, 2003. A good practice guide commissioned by HEFCE.
- Digitisation – AHDS – Alistair Dunning, [Copyright and Other Rights Issues in Digitisation](#), 2004.
- Digitisation – TASI – [Coping with Copyright](#), 2003; [Advice Paper: Copyright](#), 2002.
- Consortia – Gordon Malan and Mike Barnes, [Model for Managing Intellectual Property in Consortia](#), 2004. A very useful paper written for the JISC Legal Service by experienced authors in the Department of Trade & Industry.

Project Resources

11. Project Partners

11.1 Consortium Agreement

If the project involves more than one partner, the partners must sign a consortium agreement and send a copy to the programme manager. The purpose of the agreement is to ensure that the collaboration is successful and delivers what is promised in the letter of grant signed by the lead institution. It should document the roles and responsibilities of the project partners, how the project work will be conducted, and what will happen in the unlikely event that things go wrong.

As a minimum the consortium agreement must address the following topics:

- **Purpose** – Purpose of the consortium
- **Membership** – Membership of the consortium
- **Letter of grant** – Confirmation that all project partners will adhere to the JISC letter of grant signed by the lead institution
- **Responsibilities** – Broad responsibilities of each partner
- **Joining** – Circumstances in which a new institution may join the consortium and their status (e.g. associate partner instead of full partner)
- **Leaving** – Circumstances in which a partner may leave the consortium, the consequences for that partner (financial or otherwise), and for the other partners
- **Financial arrangements** – How project funding will be apportioned among the project partners
- **IPR** – Who will own the IPR of outputs created by the project, e.g. the partner who creates it owns it, or all will own jointly
- **Exploitation** – How intellectual property may be exploited after the project ends, with due reference to the letter of grant.
- **Project assets** – When the project ends, who will own assets like hardware and software bought with project funds
- **Disputes** – Process for resolving any disputes among the project partners.

The JISC template consortium agreement can be found at [new URL]. This has been used for several years, and most projects find it helpful. Institutions can use it as it and fill in the blanks to customise it for their consortium. Alternatively institutions can contact their department that handles collaboration, technology transfer, or innovation. Such a department may have its own template agreement or guidelines for setting up collaborative research agreements.

In planning the consortium agreement, think about how you would like the project to operate and the partners to work together. However, also think about what could go wrong and how you can use the agreement to prevent this. For example:

- **Decision process** – Make sure there's a clear and fair method for making decisions where all partners have input. The agreement should provide for resolution of disputes, but think about how to avoid them.
- **IPR** – Make it absolutely clear who owns what IPR (see Section III-10) and think through what will happen if a partner leaves the consortium. Should they assign the IPR they created for the project to one of the other partners?
- **Authority** – Decide who can sign agreements on behalf of the consortium, e.g. the lead partner.
- **Legal entity** – A consortium isn't a legal entity as such. If the consortium will need to sign licence or other agreements as a group in order to conduct the project work, they may want to form a legal entity.
- **Subcontracting** – Decide if the partners can subcontract any of their work to third parties. If so, will the consortium want to review any subcontracting agreements before they are signed?
- **Commercial partners** – Companies have different methods of working and style/ethos from educational institutions. If the consortium has commercial partners, make sure the agreement is sufficiently detailed so that educational and commercial partners have a shared understanding of the project, particularly about responsibilities, IPR, and exploitation when the project ends.

A consortium agreement is a core project document for projects with multiple partners, and copy must be sent to the programme manager as noted in Section I-4.5.

11.2 Vendor Agreements

Many projects involve commercial partners. Where they are full partners named in the project proposal, typically they will be included in the consortium agreement.

For some projects, an institutional partner may wish to subcontract some part of the project work to a company or consultant. The subcontractor is not a full project partner, has no 'say' in the project, and only performs agreed work for an agreed fee.

As noted above, it's useful to think through subcontracting when planning the consortium agreement. Decide if one partner may subcontract on behalf of the consortium (e.g. the lead partner) or if any partner may subcontract its own work. Any vendor agreement should be carefully written so it's consistent with the consortium agreement and letter of grant, particularly the provisions for IPR. For example, a vendor agreement should be absolutely clear about who owns the IPR the vendor creates and whether the vendor has any rights to exploit the IPR, e.g. for its other customers or for other markets. As noted in Section III-10.1, a condition of JISC funding is that project deliverables are made freely available to the UK education and research communities, and any exploitation of IPR must not be to the detriment of JISC or the community. Projects should ensure that vendor agreements comply with these principles.

Where work is subcontracted, it is very important that the contracting institution should follow the procurement procedures in place at their institution. There may be specific requirements about the bidding process to follow, number of bids required for the size of contract, and evaluation of bids. It is very important that projects follow procurement procedures, so that all decisions about subcontractors are fair and can be justified. JISC funds projects with public money, and projects must ensure that decisions on subcontractors are properly made.

11.3 In the Project Plan

- List all project partners (including any subcontractors), the main contact for each one, and briefly describe their roles
- Indicate the date the consortium agreement was (or will be) signed, and send a copy to the programme manager.

11.4 Review as you Go

Most projects run smoothly and the project partners get along well. If project partners fall out, this can have disastrous consequences for the project. At worst, a partner may leave the consortium. At best, communication and the spirit of collaboration may be lost, and there may be an 'atmosphere' at project meetings. It's obviously important to avoid these problems. When planning the consortium agreement, make sure it covers what will happen if the partners disagree or fall out. Make an effort to get to know the other project partners and their staff well, so you feel comfortable discussing problems and issues at meetings.

Look out for warning signs that a project partner isn't happy. If a partner seems uncommitted and isn't pulling their weight, someone should have a quiet chat with them off the record. If the project manager doesn't feel comfortable doing this, ask the programme manager to. The partner may feel their views aren't being heard at meetings or their work isn't valued. Get the issue out in the open and take remedial action before they decide to leave the consortium. This rarely happens, but it would have implications for the expertise that's been built up, deliverables, and the project schedule.

11.5 Further Resources

- [JISC Consortium Agreements FAQ](#)
- Gordon Malan and Mike Barnes, [Model for Managing Intellectual Property in Consortia](#), 2004. A very useful paper written for the JISC Legal Service by experienced authors in the Department of Trade & Industry.
- UK Office of Science & Technology, [LINK Programme](#). This programme was established to encourage collaborative research between universities and industry. There are guidelines for developing a collaboration agreement together with the [template agreement](#) used for the LINK programme. These are useful whether your project has a commercial partner or not.

- JISC InfoNet has resources for planning and implementing information systems in HE/FE. Their InfoKit on [Contract Negotiation](#) explains how to negotiate with commercial partners, understand the jargon, and get a good deal.

12. Project Management

It is extremely important that all projects are properly managed. JISC does not dictate how this is done. Each project is unique and should develop a project management framework suitable for the scope/length of the project and work to be performed. The framework should ensure that:

- Project aims and objectives and project outcomes are achieved
- Project work is performed on schedule and deliverables/reports are delivered on time
- Project work is done within the allocated budget
- Project partners and members of the project team have well-defined roles and responsibilities
- There are effective methods for planning, communicating, and making decisions
- The project reflects on its work and takes a positive and flexible approach to updating plans.

This section gives some general guidance on project management, but projects may want to adopt a formal methodology like [PRINCE2](#). Though many aspects of project management come down to good planning and common sense, there are real benefits to learning and using a proper methodology. It's quite likely to increase the project manager's confidence and ensure that the project is really successful.

It is important to select and adapt the approach to suits the nature of the project and the outcomes to be achieved. Management approaches range from the traditional pre-planned approach associated methodologies such as [PRINCE2](#) and [Project Management Body of Knowledge \(PMBOK\)](#) to the process view of human collaboration found in [agile software development](#) and [flexible product development](#).

12.1 Project Manager

JISC does require that each project has a clearly designated project manager. There must be a clear, written agreement on the proportion of time the responsible individual will devote to project management. This should be documented in the project plan and agreed with the programme manager.

The role of the project manager will vary depending on the scope and nature of the project. However, typically the project manager will:

- Prepare the project plan
- Coordinate and manage project work
- Monitor project progress and performance
- Ensure that project outputs are delivered on time
- Identify risks, problems, and issues, and escalate them as appropriate
- Manage communication within the project and with the programme manager
- Prepare progress, final, and other reports
- Arrange meetings (e.g. management committee) and write the minutes
- Manage project resources, including the budget
- Coordinate work on any legal agreements, e.g. consortium, vendor, or license agreements
- Maintain the project web site
- Maintain project documentation
- Ensure that the project abides by the letter of grant, the JISC Terms and Conditions, and the JISC Project Management Guidelines.

Getting a project manager in place as soon as possible will get the project off to a good start and up and running quickly. Any delays will put the project behind schedule even before it starts. Projects might consider using one of the JISCMAIL lists to advertise the post. There might be a good project manager just finishing work on another JISC project. If getting a project manager proves difficult, the project might consider using a consultant to get the project up and running until they find a permanent project manager.

12.2 Project Team

Projects will have thought through staffing requirements when writing the project proposal. Many projects choose to have a project director. Some choose to have a technical manager or a project administrator. Staff may work on the project full time or part time. JISC has no particular requirements on project staffing other than to make sure that roles are well-defined and to send the programme manager a list of all project staff e.g. name, job title, postal address, email address, telephone, and fax. During the project, the programme manager should be informed of any changes in staffing.

12.3 Training

JISC expects projects to have well qualified staff competent to undertake the project work. Indeed, the qualifications and experience of the team may be a factor in evaluating proposals during the bidding process. If a need for training is foreseen, e.g. in technical areas, the project should plan for it in the budget and arrange for it as soon as possible.

Nevertheless, it's useful to do a skills audit at the start of the project. This will help you to identify any unforeseen training needs. Be honest and objective. If you know about training needs, you can send staff on appropriate courses, and they can 'hit the ground running'. If you don't ask, staff may feel uncomfortable raising the issue.

12.4 Project Champions

Institutional buy-in is important for JISC projects. In a corporate environment, a project sponsor commissions the work, works with the team, makes sure they deliver, acts as a champion for the project within the company, and handles communications and political issues. JISC funding is external, so effectively the JISC programme manager is the project sponsor. Projects should look for someone within the institution that can act as a 'champion' and help them with issues like developing a profile, communications, and politics. This would be someone with a vested interest in the project outcomes, a vision of what it could achieve, and someone with influence. It might be a teacher/lecturer, administrator, librarian, or the head of IT. The champion wouldn't need to get involved in the project, but might join the management committee, or act as an independent advisor. A champion who knows the politics can make sure the right committees know about the project, there's buy-in, and the project is perceived as successful.

12.5 Project Organisation

JISC does not specify how projects should be organised. For a small project based at one institution a project manager may be sufficient. Large projects with several partners may want to follow the model in the template consortium agreement and establish a management committee. However the project is organised, roles, responsibilities, and reporting relationships should be clear. There should be clear arrangements for communication and decision making.

12.6 Management Committee

It should be noted that some programmes have programme advisory boards (Section II). Such advisory boards work with the programme manager to steer the programme and ensure it is successful. Their role may also involve steering and advising projects within the programme. Members of the advisory board are experts in the field, will review project work, and will have a broad perspective on how the programme is developing. They may offer projects advice and guidance, and suggest changes in direction so that the programme achieves its outcomes. However, these advisory boards work at programme level and don't get involved in the day to day running of projects.

JISC has no requirement for projects to set up local management committees, but most projects find them helpful, particularly where there are multiple project partners. The project manager will plan the project work and ensure that project outputs are delivered on time. However, project partners will want to review progress, discuss issues, and have input into project decisions. A management committee provides a forum for discussion and decision making, and a management framework above the level of project manager. Rather than taking 'power' away from the project manager, a local management committee allows the partners and team members to buy into the project work and spread the responsibility.

Typically the role of the management committee is to:

- Steer and guide the project
- Review progress and outputs
- Review outcomes and their impact on the community
- Advise the project team
- Represent the interests of the project partners
- Agree important decisions and changes to plan
- Discuss risks, problems, and issues, explore solutions, and identify any that should be escalated to the programme manager
- Formative evaluation – reflect on how things are going and what could be improved.

The management committee might include:

- Representative(s) of each project partner
- Key project staff, e.g. the project manager, project director
- Project stakeholders, champions, experts, or advisors.

The stakeholder analysis (Section III-6) identified people that would be affected by the project or whose support would be important for the project's success. The project may have identified a champion (Section III-12.4) within the institution who can help the project get the buy-in it needs. Now is the time to think about stakeholders and decide which ones could be useful members of the management committee. The project may want to invite other experts or advisors to join. These will depend on the project, but might include an expert on pedagogy, learning technology, IT, or evaluation. And if users are critical to the success of the project, it might even consider inviting a prospective user. Think about what kind of insights, expertise, and advice you'd like and who could provide them.

It's useful to draw up a terms of reference for the management committee, so that all concerned understand its role and operation. This would typically include:

- Role and responsibilities
- Membership
- Chairperson
- Frequency of meetings
- Location and conduct of meetings
- Decision process, e.g. voting or consensus, and who gets to vote.

Where a project in a programme decides to have a management committee, the project must manage it within its own resources, and should not expect members of the JISC Executive to attend meetings, except under special circumstances or at special request. However, where a project is commissioned *outside* the framework of a programme, JISC will normally require an advisory group at project level (to replace the advisory group normally in place at programme level). The advisory group should represent the project partners, other stakeholders, and the JISC Executive. Its role is to help the JISC Executive steer and develop the project, and to provide progress reports and recommendations to the JISC Executive and the sub-committee that funds the project.

12.7 Hints and Tips

- Hire a project manager as soon as possible, so the project can get up and running quickly.
- Find a 'champion' who can help the project develop a profile within the institution(s) and get buy-in.
- Make sure that roles and responsibilities of the project partners, project staff, and the management committee (if there is one) are well defined and understood by all.
- Make sure there are effective methods for planning, communicating, and making decisions.
- Do a skills audit and provide training early in the project.
- Keep in touch with the programme manager. Let him/her know if you're having problems.
- Take advantage of the various JISC advisory services.

12.8 In the Project Plan

- Briefly describe the project management framework, including project organisation, reporting relationships, decision process, and the role of any management committee.
- List the project manager and indicate the proportion of time s/he will spend on project management.
- List all members of the project team and their contact details. Inform the programme manager of any changes.
- Indicate if the project has training needs and how they will be met.

12.9 Further Resources

- JISC InfoNet provide an infokit covering [PRINCE2 based project management](#).
- [Project Management Wikipedia](#)
- JISC InfoNet has resources for planning [and implementing information systems in HE/FE](#). Their InfoKit on Project Management is excellent. It's aimed at senior managers who need to manage an inhouse project from start to finish. JISC projects are a bit different, as funding is external and many involve multiple partners, but the principles are the same.
- The [PRINCE2 web site](#) describes this methodology for project management, sells handbooks, and provides links to accredited training organisations.
- The Office of Government Commerce, the organisation responsible for PRINCE2, has a [Successful Delivery Toolkit](#) with very useful sections on project management and risk management.
- NOF Digitise Technical Advisory Service – This service provided support and advice to projects in the New Opportunities Fund Digitisation Programme. Their [Programme Manual](#) was developed for project managers of NOF Digitise projects, but much is applicable to JISC projects.
- Many of the JISC development and advisory services offer training or workshops in relevant areas, e.g. [Netskills](#), [TASI](#), [JISC InfoNet](#), [JISC CETIS](#), and the [JISC Legal Information Service](#).

13. Programme Support

JISC's programme management framework provides support for all development projects. The programme manager (Section II-2) will provide help and guidance, and programme meetings (Section II-3) will provide information and support. For example, the first programme meeting may have a session on project management, and later programme meetings may cover evaluation or dissemination. Depending on the nature of the programme, there may also be guidance and support on standards or technical best practice or workshops on specific topics. Programme advisory boards (Section II-1.4) will help to steer the programme and provide expert advice. Projects are encouraged take advantage of programme support and identify specific areas where it would be useful.

13.1 In the Project Plan

In the project plan, indicate if there are specific areas where you would like support from the programme.

14. Project Budget

JISC requirement – Projects must include a financial statement in the project plan, progress reports, and the completion report.

JISC provides a budget template that should be used for financial reporting from project proposal through to the reconciliation of the final budget at the end of the project. The table below shows the template for proposals. *The template for reporting has additional columns to report expenditure against budget.*

Budget Template				
Directly Incurred Staff	Year x	Year y	Year z	TOTAL £
Post, Grade & % FTE	£	£	£	£
Etc.	£	£	£	£
Etc.	£	£	£	£
Total Directly Incurred Staff (A)	£	£	£	£
Non-Staff	Year x	Year y	Year z	TOTAL £
Travel and expenses	£	£	£	£
Hardware/software	£	£	£	£
Dissemination	£	£	£	£
Evaluation	£	£	£	£
Other	£	£	£	£
Total Directly Incurred Non-Staff (B)	£	£	£	£
Directly Incurred Total (A+B=C) (C)	£	£	£	£
Directly Allocated	Year x	Year y	Year z	TOTAL £
Staff	£	£	£	£
Estates	£	£	£	£
Other	£	£	£	£
Directly Allocated Total (D)	£	£	£	£
Indirect Costs (E)	£	£	£	£
Total Project Cost (C+D+E)	£	£	£	£
Amount Requested from JISC	£	£	£	£

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Institutional Contributions ¹	£	£	£	£
Percentage Contributions over the life of the project		JISC X %	Partners X %	Total 100%

Nature of Institutional Contributions

Directly Incurred Staff	Year x	Year y	Year z	TOTAL £
Post, Grade & % FTE	£	£		£
Directly Incurred Non Staff				
Hardware/Software etc.	£	£		£
Directly Allocated				
Staff, Estates etc.	£	£		£
Indirect Costs				
Indirect Costs	£	£		£
Total Institutional Contributions	£	£		£

¹ If the institutional contributions include a contribution towards the direct costs of the project please complete a table along the lines of the example

Explanation of Terms

All applications from UK HE institutions for development funding from JISC should be costed on the basis of full economic costs (fEC). fEC is the total cost of a project. All applications should be costed on financial year April – March and NOT August – July.

Further information on fEC is provided by [guidance on fEC for JISC-funded research and development projects](#).

Cost Headings

Directly Incurred

These are costs that are explicitly identifiable as part of the project, are charged at cash value actually spent and can be supported by an audit record. They include:

- **Staff** – payroll costs requested for staff, full- or part-time, who will work on the project and whose time can be supported by a full audit trail during the life of the project.
- **Travel and Expenses** – funds for travel and subsistence for use by staff who work on the project where these are required by the nature of the work. This should include attendance at programme meetings (two per year) and other relevant meetings dependent upon the project/programme.
- **Equipment** – the cost of individual items of hardware or software dedicated to the project, including VAT, e.g. a computer for a newly recruited member of staff for the project.
- **Dissemination** – the cost of any dissemination activities proposed for the project.
- **Evaluation** – the cost of any formative or summative evaluation activities proposed for the project.
- **Other Costs** – costs of other items dedicated to the project, including consumables, recruitment and advertising costs for staff directly employed on the project.

Directly Allocated

These are the costs of resources used by a project, which are shared by other activities. They are charged to projects on the basis of estimates rather than actual costs and do not represent actual costs on a project-by-project basis. They include:

- **Staff** – proposals will need to show the costs of any principal investigators/project directors and any co-investigators/co-directors if their time charged to the project is based on estimates rather than actual costs. This may also include the costs of technical and clerical staff, and if a project is buying a small amount of one or more of a person's time.
- **Estates** – these costs may include building and premises costs, basic services and utilities, and any equipment maintenance or operational costs not already included under other cost headings.
- **Other Directly Allocated** – these costs may include, for example, access to institutional research facilities such as equipment and IT systems.

Indirect Costs

These include non-specific costs charged across all projects based on estimates that are not otherwise included as Directly Allocated costs. They include the costs of administration, such as personnel, finance, library and some departmental services.

- **Indexation**
- Costings for subsequent years should factor in inflationary increases for salaries and other costs. All costings should be inclusive of any VAT applicable.
- **Project Partners**
- Funding for project partners, e.g. staff time, should be clearly identified in the proposal under the relevant heading. Resources to be provided by project partners, whether cash or in-kind contributions, should also be clearly identified in the proposal.
- **Justification of Costs**
- All costs associated with the project must be fully justified.

In developing the budget, projects should consider the following:

- Allow travel expenses to attend programme meetings (Section II-3), cluster meetings (where relevant), and management committee meetings (Section III-12.5)
- Include relevant headings under 'Other' as appropriate, e.g. consumables, software, licenses, small equipment
- List any capital items over £10k under 'Equipment' and less expensive items under 'Other'
- Allow for staff training
- Allow some contingency.

Detailed Project Planning

15. Workpackages

JISC requirement – Projects must prepare a detailed plan of the project work structured by workpackages. Project outputs must be delivered on time, and any changes to the schedule must be agreed with the programme manager.

Projects should use the workpackages template to develop a detailed plan of the project work clearly indicating all project outputs and when they are due. For each workpackage, indicate:

- Name of the workpackage
- Objective of the workpackage
- Tasks – List all the major tasks
- Earliest start date – For each task
- Latest completion date – For each task
- Outputs – List the output(s) for each task, clearly indicating the deliverables and reports for JISC in **bold**
- Milestones – Clearly flag major milestones
- Responsibility – Person responsible for each task

The first page of the template allows you to show the timing/phasing of the workpackages. You may also attach a Gantt chart, diagram, or flowchart to show how workpackages interrelate. Please note any dependencies.

There is no prescribed set of workpackages that projects must have; these will depend on nature of the project, the development being performed, and the outputs envisaged. However, most projects will probably include workpackages for project management and to implement their plans for QA, evaluation, dissemination, and exit/sustainability.

Some projects have asked what to put in the columns for outputs and milestones, and what indeed is a milestone. Let's assume that you have a workpackage on evaluation and this includes an assessment of user needs. This may include various tasks like a questionnaire, a focus group, analysis of the results, and an external evaluation of the assessment. List the outputs for each task in the outputs column. Some of these will be for internal use within the project, e.g. the questionnaire, questionnaire data and analysis, script for the focus group, report on the focus group. List the deliverables for JISC in **bold**, e.g. an evaluation report on user needs.

A milestone is a significant event in the project that's usually linked to completion of a major deliverable. In this example, the evaluation report submitted to JISC would be a milestone. This is the time to reflect on what has been achieved and how this informs future work. Now that the project has a good grasp of what users want, how will this affect plans for development? Will it change what the project will create, how, or resource allocation? It's a time for reflection and a reality check on what the project will do. Flag milestones in the milestone column in some meaningful way, e.g. '3' to indicate it's the third major milestone the project will achieve.

Once the project plan is approved, all deliverables must be submitted on schedule. If the project encounters or foresees any problems that will affect the schedule for milestones or deliverables, they must contact the programme manager. Any changes to the project schedule must be agreed with the programme manager.

16. Evaluation Plan

JISC requirement – Projects must develop an evaluation plan as part of the overall project plan to explain how they will evaluate the success of the project and its outcomes. They must also participate in evaluation activities at programme level.

16.1 Evaluation

Evaluation is measuring success in a systematic way. In the case of a project or programme, evaluation focuses on whether it was effective, achieved its objectives, and the outcomes had an impact. In the case of something tangible like project outputs, evaluation might focus on whether they are useful, meet user needs, and perform well. In both cases, the aim is to measure success in an objective way. Experts on evaluation often make a distinction between formative and summative evaluation. They are similar, and the main difference is timing:

- **Formative evaluation** is done *during* the project/programme to *improve* the work in progress and the likelihood that it will be successful
- **Summative evaluation** is typically done near the *end* of the project/programme to provide *evidence* of achievements and success.

The evaluation undertaken by JISC projects will vary depending on the objectives set, the outputs created, and the outcomes envisaged. However, all projects must undertake evaluation to improve their own work and that of the programme (formative) and to measure their success (summative).

16.2 Programme Evaluation

JISC undertakes evaluation of its development programmes to ensure that knowledge and results are shared with the wider community and to improve the development programme itself. The programme manager will plan an overall evaluation strategy for the programme. This will provide a framework for the evaluation work to be performed, the questions that will be addressed, and the criteria by which the success of the programme will be judged.

For most programmes, there will be formal formative and summative evaluations. These studies may be undertaken by an external consultant or group of consultants, a designated project within the programme, the programme's advisory board, or a mixture of these approaches.

As noted above, a **formative evaluation** is done during the programme to improve it. Aims of the formative evaluation might be to:

- Assess progress towards meeting the programme's aims and objectives
- Assess how effectively projects are contributing to meeting the programme's aims
- Gather and disseminate best practice
- Identify gaps and issues
- Raise awareness of the programme and stimulate discussion within the community
- Ensure programme outputs are meeting stakeholder needs
- Ensure the programme can respond flexibly to changes in the technical and political environment and that it isn't overtaken by events.

A **summative evaluation** would be done at the end of the programme to assess outcomes, impact on the community, and overall success. Aims of the summative evaluation might be to:

- Assess whether the programme achieved its aims and objectives
- Assess the impacts, benefits, and value of the programme in the broader context
- Identify achievements and stimulate discussion with the community
- Synthesise knowledge from the programme and lessons learned
- Identify areas for future development work.

Projects are required to participate in any evaluation studies at programme level. The programme manager will inform projects about plans for programme evaluations and let them know how to participate. Some projects become nervous about this prospect and feel that formative evaluations ‘check up on them’ and summative evaluations judge their success. This isn’t the case. Programme evaluations focus on what the *programme* is achieving. What projects are achieving is obviously relevant, but individual projects are not evaluated and their success is not judged.

Further information is available on JISC’s approach to evaluation in the [JISC Programme Evaluation Framework](#) and [JISC Programme and Project Evaluation Handbook](#).

16.3 Project Evaluation Plan

Each project must develop an evaluation plan as part of the overall project plan, and this should include formative as well as summative evaluation. The evaluation plan will explain how they plan to evaluate the success of the project. It should be planned in consultation with the programme manager and approved by any programme advisory board. Projects will then report on evaluation activities in progress reports and in the final report.

The project plan template has a table to help projects develop their evaluation plans, and the remainder of this section explains how to fill it in:

Timing	Factor to Evaluate	Questions to Address	Method(s)	Measure of Success

16.4 Factors to Evaluate

The factors to evaluate will depend on the project. In most cases they will focus on how successful the project is at achieving what it set out to do. This might include:

- Achievements against aims and objectives
- Stakeholder engagement
- Outcomes and impacts
- Benefits
- Learning
- Effectiveness of the project

Each project should decide on the factors to evaluate in consultation with the programme manager. Focus on important factors that can be evaluated within project resources.

16.5 Questions to Address

The next step would be to list the specific questions the evaluation will answer. The table below lists typical questions that projects might consider in evaluating its outputs and the project itself.

Formative Questions	Summative Questions
Have milestones been met on schedule?	Have objectives been met?
What is holding up progress?	Have outcomes been achieved?
What should we do to correct this?	What are the key findings?
Is project management effective?	What impact did the project have?
Are stakeholders on board?	What benefits are there for stakeholders?
Do they agree with interim findings?	Was our approach effective?
Is our dissemination effective?	What lessons have we learned?
What lessons have we learned?	What would we do differently?
Do we need to change the plan?	

Focus on questions that really need to be answered to demonstrate success. Think about stakeholders and what they want to know. Make sure that the questions can be answered unambiguously. Avoid questions where the answer is likely to be 'maybe'.

16.6 Evaluation Methods

There is a wide range of evaluation methods that can be used, and projects should select methods that will answer their questions. Evaluation methods are well-documented, so even projects that haven't conducted an evaluation before should find sufficient information to choose appropriate methods and use them successfully. Below is some general advice on evaluation further information on JISC approach to programme and project evaluation can be found in [JISC Programme Evaluation Framework](#) and [JISC Programme and Project Evaluation Handbook](#).

Quantitative methods include:

- **Questionnaires** – Questionnaires are used to gather opinions from a particular group in a systematic way using closed and open-ended questions. They are a common and versatile way of collecting data and relatively cheap. They can be sent by email, posted on the web, or even posted by snail mail. Care needs to be taken in selecting the sample, phrasing the questions, and analysing the results in order to make valid conclusions.
- **QUALSERV** – This measures the quality of a service in terms of five parameters: reliability, responsiveness, assurance, empathy, and tangibles. It's a survey instrument that measures the gap between users' expectations for excellence and their perception of the actual service delivered.
- **Usage logs** – Usage logs record what each user does during a session, and these can be analysed using various tools and techniques. They allow you to measure what content is used, how often, using what methods (e.g. searching), and sometimes by whom (e.g. by department). Analysis can allow you to identify trends and patterns, e.g. in searching or navigation.
- **Web server logs** – These can tell you a bit about how your web site is used, e.g. the most used pages, if usage is increasing, and times of peak use. They don't tell you who's using the site, why, or if they like it. But they can identify problems to look into, e.g. navigation if important pages aren't being used. Many software tools are available to analyse server logs.

Qualitative methods include:

- **Interviews** – These are conversations, typically with one person. They may be structured, semi-structured, or unstructured, and conducted in person or by phone. They are useful for exploring opinions and issues in depth on a one-to-one basis.
- **Focus groups** – These are interviews conducted with a small group of people (e.g. 8-10). They allow you to get a range of views on an issue (not a consensus) and explore how strongly views are held or change as the issue is discussed. They are often used after a survey to help explain the results or clarify issues. However, they are time-consuming to set up and some skill is needed to guide and moderate the discussion.
- **Observation** – Observation is just that, observing what people do. It's a technique often used by developers of commercial software to find out how users use their product. If results aren't what they envisaged, they may change the design. Observation can be applied to other areas as well, e.g. how a process or content is used.
- **Peer review** – In some areas, an expert opinion is needed. A pedagogical expert might evaluate learning objects and say if they meet learning objectives. An expert in a discipline might evaluate the quality or relevance of a collection of content in that area.

Whatever methods are used, it's important to involve stakeholders, as this will increase their commitment to the project, confidence in the results, or likelihood they will act on the findings. Involving users will increase their prospects for using of outputs. The project may choose to involve an expert on evaluation, e.g. to help plan the studies or advise on analysing results. When planning evaluation of the project, it's important to get independent views.

Projects should keep in mind that they are likely to be collecting personal data during evaluations (data associated with named persons) and should ensure that the data protection policies of their institutions are followed.

16.7 Measuring Success

When you plan the evaluation, think about how you will measure success and what evaluation criteria or performance indicators you will use. In the case of project outputs, performance indicators may relate to user demand, user satisfaction, efficiency, effectiveness, take-up, etc. In the case of the project, they will probably relate to achieving your objectives. By using SMART objectives (specific, measurable, achievable, realistic, timed), you can demonstrate they have been achieved. Discuss how you will measure success with stakeholders to understand success from their point of view.

Think also about the level of success you hope to achieve, e.g. the level of user satisfaction or take-up. This may be difficult to assess at the start of the project, but setting targets will give you something to aim for. It's important to quantify success in some way, to ensure that your evaluation results are objective, valid, reliable, repeatable, etc. Below are some examples to illustrate:

- 1,000 users per day will visit the web site
- Usage of the portal will increase by 200% from year 2 to year 3
- 80% of users questioned will express satisfaction with the service
- Student examination marks will improve by 10% in two years
- 90% of users questioned will say the process/method saved them time
- 4 out of 5 institutions approached say they will adopt the guidelines
- The portal will achieve a benchmark score of X in usability studies.

16.8 Using Evaluation Results

Formative evaluation will improve the project and its outputs. It lets you reflect on what you've done so far, what's going well (or not so well), and what you could do to change or improve things. In these Guidelines there are sections called 'Review as you Go'. These are about formative evaluation and how to build it into the fabric of the project. Formative evaluation is also a method of improving the programme and future JISC programmes. Tell the programme manager, personally or in progress reports, what could be improved. Other projects may be saying similar things, and the programme manager can decide what action to take at programme level.

Evaluation will demonstrate that you've achieved your aims and objectives, the work was useful, and there are benefits for the community. The project has received funding, and achieving results is part of accountability. But it's also in your own interests. Demonstrating that the work was useful and has benefits for the community relates to sustainability. If you plan to carry the work forward, include evaluation results in your business plan (Section III 19.8).

Success has been mentioned frequently, and projects may wonder what happens if they fail. JISC projects seldom fail, but some projects don't achieve all their objectives. There may be circumstances beyond the project's control that affect what the project can achieve. JISC is likely to be sympathetic rather than judgemental, as much can be learned from 'failure' as well as success. JISC asks projects to do the best they can and learn from the experience.

16.9 Hints and Tips for Evaluation

- Focus on a few important factors
- Set realistic goals that can be achieved within project resources
- List the specific questions you want to answer
- Make sure they *can* be answered, and unambiguously (yes/no not maybe)
- Select appropriate methods that will answer the questions
- Decide how you will measure success
- Involve stakeholders
- Use formative evaluation to improve the project and the programme
- Build formative evaluation into the fabric of the project

- Use the results
- Make sure that the evaluation work is reflected in the workpackages.

16.10 Review as you Go

Evaluation will demonstrate that the project was successful. By doing the evaluation plan early in the project, you can think about what you need to evaluate, when, using what methods, and how you will measure success. Build some evaluation into each phase, rather than leaving it to the end. Early feedback from users may help you understand what they do/don't like and improve the design. Reflecting on what's going well (or not so well) within the project will help to identify issues that should be dealt with before they become problems or risks. Change the plan as you gain experience and get feedback, and use evaluation to improve the project (and the programme).

16.11 Further Resources

- [JISC Programme Evaluation Framework](#) and [JISC Programme and Project Evaluation Handbook](#)
- [FAIR and X4L Programmes](#) – the EFX project provided evaluation support to these programmes during 2002/03 and was a joint initiative between CERLIM at Manchester Metropolitan University and the Centre for Studies in Advanced Learning Technologies (CSALT) at Lancaster University. They developed an excellent evaluation toolkit explaining evaluation, how to develop an evaluation plan, and listing many useful resources. Other JISC projects may find their approach helpful.
- eLib Programme – The Tavistock Institute developed [Guidelines for Project Evaluation](#) for the JISC Electronic Libraries Programme. Much of the information is still useful and can be applied in different ways for larger or smaller projects.
- UK Evaluation Society – The society's [Guidelines for Good Practice in Evaluation](#) (in the library section) explain their principles about conducting evaluations. There are also good links to evaluation resources.
- Sally Bond et al, Taking Stock: [A Practical Guide to developing your own Programs](#), Horizon Research, 1997. As the title suggests, this is a practical guide to evaluating projects or programmes.
- [JISC InfoNet's EvalKit](#) is a directory of ICT evaluation tools and toolkits for use by the education sector. You can search the database or browse by topic, and there are links to additional resources. EvalKit was a JISC-funded project.

17. Quality Plan

JISC requirement – Projects must develop a quality plan as part of the overall project plan to ensure that outputs are fit for purpose and comply with relevant standards and best practice.

17.1 Quality

JISC expects projects to develop quality outputs and to perform quality planning and quality assurance to ensure that outputs meet quality expectations. What 'quality' actually means will depend on the outputs the project is creating, but is generally related to:

- Fitness for purpose
- Adherence to relevant standards and specifications, e.g. to ensure interoperability and accessibility
- Use of best practice methods and techniques for development

'Fitness for purpose' will vary with the project output, but generally means it 'does what it says on the tin'. For example, if you're developing software to enable users to perform a task, the software should enable them to perform it. However, it can also relate to how well it allows them to perform a task and factors like usability. If you're developing a pilot to demonstrate feasibility, it should obviously demonstrate feasibility, but scalability and reliability might be other factors to consider in fitness for purpose.

There are several reasons why quality and quality planning are important:

- Each output contributes to the success of the programme. Poor quality outputs will limit the programme's success and could even cause the programme to fail.
- JISC shares development outputs with the community. They need to be fit for purpose and of value to the community.
- Integration and interoperability are increasingly important in ICT. Outputs need to meet agreed standards so they work together seamlessly.
- JISC development is publicly funded and must provide value for money.
- JISC projects should provide a lasting benefit to the community and sustainability is increasingly important. Quality is important for sustainability.

17.2 Quality Planning

As quality is important, a quality planning process has been developed to meet a need within JISC to improve and assure the quality of project outputs. The quality planning process is outlined below:

1. Quality expectations – The programme defines the standards and level of quality expected from the project.
2. Acceptance criteria – The programme defines acceptance criteria for major project outputs based upon the quality expectations set.
3. Quality plan – The project develops a quality plan showing how it will achieve the quality expected and the quality assurance processes it will put in place.
4. Implementation – During the project the outputs are developed in line with the quality plan.
5. Acceptance of outputs – The project submits its outputs, supported by evidence that they meet the quality expectations. Outputs are assessed against the acceptance criteria and accepted (or rejected) by the programme.

Any quality expectations that apply to the programme generally and its outputs will be outlined in the circular/ITT. The programme manager will discuss quality expectations for specific types of outputs with projects in more detail at the start of the programme. Typically quality expectations will relate to fitness for purpose and compliance with agreed standards and best practice.

The acceptance criteria will relate to what the project must do to demonstrate that the expected quality has been achieved. For example, the programme manager might ask for a set of interoperability test results to demonstrate that interoperability standards have been adhered to. S/he might ask for a report from an external evaluator that assesses fitness for purpose.

17.3 Quality Planning vs. Evaluation

Projects may well ask what the difference is between evaluation and quality planning. Quality and success are both good things, so how are they different? For the purposes of these guidelines:

Quality planning puts in place processes to ensure that **project outputs** are fit for purpose and meet quality expectations. Quality planning is linked to the acceptance process. The programme indicates the quality that is expected and acceptance criteria that must be met. In many cases these are related to the technical quality of outputs, e.g. technical standards and best practice used during development. The project puts in place quality assurance processes to ensure that the desired quality is achieved and tests to provide evidence. Quality planning should demonstrate that the outputs meet quality expectations and acceptance criteria in a straightforward and objective way.

Evaluation measures the success of what you set out to do. For a **project or programme**, this tends to relate to achievements, outcomes, what was learned, and how this changes things. For example, did the project (or programme) achieve its aims and objectives and fulfil the need envisaged at the start. How do its outcomes change our understanding how things work, what people can do, or how things can be done better. Evaluation involves people making judgements about success, but doing so using objective and systematic techniques.

Evaluation can also be applied to **project outputs**. Where quality planning would focus on whether the outputs meet quality expectations, evaluation might focus on issues like whether the outputs are useful, wanted by

users, and liked by them. In principle an output might be of high quality and pass acceptance tests, but evaluation might demonstrate how useful (or not) it is. As with evaluating a project, evaluating an output involves people making judgements. Peer review might be appropriate to assess whether an output is useful, and surveys or focus groups to assess user satisfaction. Evaluation skills rather than technical skills are needed to select appropriate evaluation methods and to assess the results. Where project outputs are concerned, there may be a fine line between quality planning and evaluation, and projects should decide how to use either or both depend on their outputs.

17.4 Project Quality Plan

The project plan template includes a table that projects should use to develop the quality plan. As JISC development programmes result in a wide range of outputs, the programme manager may adapt the template to suit the type of outputs being developed.

Whatever the outputs, the idea is to think through how you will achieve the quality envisaged. This will involve quality assurance – putting in place the policies, practices, and procedures for achieving best practice and complying with standards. Quality control is checking that you’ve done what you expected to do, e.g. by testing. In developing the plan, think through the methods you need to put in place, the testing you must do, and the evidence that will demonstrate you’ve achieved the quality envisaged.

Complete the table for each of the major deliverables providing as much detail as possible. Repeat the table as many times as necessary to accommodate all project outputs.

Output	Quality criteria	QA method(s)	Evidence of compliance	of	Quality responsibilities	Quality tools (if applicable)
Timing						
Output	Quality criteria	QA method(s)	Evidence of compliance	of	Quality responsibilities	Quality tools (if applicable)
Timing						

17.5 Quality Criteria

Specify the criteria against which the quality of the output will be measured, e.g. fitness for purpose, best practice for processes, adherence to a specific standard or specification, usability, accessibility, validity, etc.

17.6 QA Methods

Define the quality assurance methods/techniques that will be used or reference established ones. For example, what processes will you put in place to ensure that software complies with JISC’s draft open source policy, the best practice outlined in Section X, and relevant standards.

17.7 Evidence of Compliance

Indicate the evidence that will demonstrate that you have achieved the quality envisaged. For example, this may involve test results, benchmarking, or successful completion of external peer review.

17.8 Quality Responsibilities

Indicate who within the project is responsible for monitoring and ensuring the quality. For example, if you're developing software, quality responsibilities might be as follows:

- Project Manager – Change control, quality of project documentation
- Lead programmer – System testing quality, configuration management
- Programmer – Unit testing quality
- Academic advisor – Usability quality.

17.9 Quality Control Tools

Projects are encouraged to use compliance testing tools wherever appropriate. Effective tools are a valuable way of easing the construction and maintenance of standards compliant applications and data. They exist in many areas including HTML compliance, metadata maintenance, accessibility testing and conformance to SCORM standards, and viewing XML schemas. The UKOLN and CETIS web sites possess numerous references and UKOLN use checking tools on many of their published pages.

Projects are also encouraged to select appropriate tools to assist with software testing and quality control. These might include tools for testing functionality, performance, usability, compliance with standards, coding, etc. The programme manager can advise, and some sources for software quality tools are listed in the 'further resources' below.

17.10 Acceptance

The acceptance process for core project documents and project outputs is outlined in Section II-5.

17.11 Further Information

- QA – [QA Focus](#) has guidelines on how to put QA procedures in place, processes to follow, briefing papers on many topics, and tools for testing compliance.
- QA – [TASI](#) – The Technical Advisory Service for Images has detailed guidelines on QA for images.
- Quality tools – [Rick Hower's Software QA/Test Resource Centre](#) and [Open source tools for software testing professionals](#).

18. Dissemination Plan

JISC requirement – Projects must develop a dissemination plan as part of the overall project plan to explain how they will share project outcomes and learning with stakeholders and the community.

JISC is seeking sustainable change and learning in the community. It cannot fund all the change required, it can only fund pilots from which others can take their lead. The change comes when people take up project outputs and learning and build on them. Dissemination is essential for take-up, and take-up is crucial to the success of the programme and sustainability of outputs in the long term. Dissemination informs the community about what you have developed and the benefits of using it.

18.1 Programme Strategy

The programme manager will plan an overall dissemination strategy for the programme. The starting point is changes the programme wants to initiate and the outcomes the programme plans to deliver. The dissemination strategy will focus on what the community needs to learn from the programme, and the processes needed for embedding and take-up. It will cover any important initiatives at programme or cross-programme level, e.g. conferences or workshops, and ensure there is a coherent plan for projects to build on. The dissemination strategy will be shared with projects at the start of the programme to help them think about outcomes, embedding, and sustainability at programme level, and how dissemination at project level can contribute to the overall strategy.

18.2 Project Plan

Each project must develop its own dissemination plan as part of the overall project plan and report on results in progress reports and in the completion report. The dissemination plan will explain how the project plans to share outcomes with stakeholders, relevant institutions, organisations, and individuals, and contribute to the overall dissemination strategy for the programme. It should be planned in consultation with the programme manager and approved by any programme advisory board. The dissemination plan will explain:

- What you plan to disseminate – the message
- To whom – the audience
- Why – the purpose
- How – the method
- When – the timing.

In the project plan template, there's a table to fill in to help develop the plan, and the next few sections explain the issues for planning dissemination:

Timing	Dissemination Activity	Audience	Purpose	Key Message

18.3 Purpose

All dissemination should have a purpose, and support or inform project development in some way. The purpose of the activity may be to:

- **Raise awareness** – let others know what you are doing
- **Inform** – educate the community
- **Engage** – get input/feedback from the community
- **Promote** – 'sell' your outputs and results.

First think about what you want to achieve. You may want to announce the project's inception, highlight a specific result or finding, or get early feedback before going on to the next stage. Then think about what the project will gain from it, e.g. raise your profile, gain support, or get input to influence future project work.

18.4 Message

Think about the key message you want to send. It's often useful to think of the person on the receiving end. What do they need to know about your project? How can you communicate it clearly before they delete your email, throw away your brochure, or nod off during your presentation?

- Focus on clear, simple messages that are easily understood.
- Get the right message to the right audience. You can send the same message to different audiences, but make sure it's relevant to each one.
- Coordinate messages within and across programmes. Messages from a group of projects often have greater impact than messages from a single project. Consult your programme manager about how your message fits in with over-arching themes for the programme.
- Don't build up unrealistic expectations at the start of the project.

18.5 Audience

Think about who you want to reach and what they can do for your project. Identify the different individuals, groups, and organisations that will be interested in what you're developing, particularly with respect to take-up at the end of the project. The stakeholder analysis (Section III 6) identified people who will be affected by your project and whose support you need. Use dissemination to inform and engage stakeholders, and get them to buy into your work. Consider the following audiences:

- **Internal**, e.g. your institution and/or the project consortium – They supported the project bid, so keep them informed about what you're doing. Use dissemination to make sure the project has a high profile and they buy into what you are developing.
- **JISC development programmes** – Share your results with other projects, within the programme and across programmes. Programme meetings (and cluster meetings) are an excellent opportunity to share what you've done and get feedback from projects doing similar work or facing similar problems and issues.
- **External stakeholders** – Think about who might take up your outputs and the stakeholders that can help you to 'make it happen'. These might be teachers, researchers, librarians, publishers, online hosts, etc. Think of opportunities to engage with them like conferences.
- **The community** – There may be much to share with the wider education and research communities. For example, guidelines, methods, evaluation criteria, questionnaires, and what you learned generally. Think about who could learn from your knowledge and experience and share it in case studies, journal articles, etc.

18.6 Methods

There are a wide variety of dissemination methods. The trick is to select the right one(s) to get your message to the target audience and achieve your purpose. The following table lists some of the many methods you can use and how to make the most of them.

Method	Purpose	Hints & Tips
Institution newsletter	Awareness Inform	Use the institution newsletter to announce the project, give regular updates, develop a profile, and get buy-in. Be creative, for example, include an interview with your project 'champion,' some quotes from end users, or praise from an external evaluator. Make sure they know the project is a success.
Project web site	Awareness Inform Engage Promote	Your project web site is one of the most versatile dissemination tools. Put plenty of information on there for different audiences. Add to it regularly so people keep coming back. Sell the project and engage the community. See Project Web sites below.
Press releases	Awareness	A press release is a formal announcement to the national press. Projects might issue one to announce the JISC funding or an important achievement. It takes skill to write a press release and get it to the right media. Projects should liaise with the JISC Communications team before issuing a press release and consult their Toolkit. See Publicity below.
Flyers/brochures	Awareness	Though much communication is electronic, it is still often useful to create an A4 flyer that can be circulated in printed form, e.g. to hand out at conferences or to colleagues at your institution. The electronic version (e.g. PDF file) can also be circulated electronically. Glossy brochures are rarely worth the time and expense.
Programme / Cluster meetings	Engage	Programme (and cluster) meetings are excellent opportunities for projects to learn from each other, discuss common issues, and get feedback on their work. You may be asked to give presentation, participate in a workshop, give a demo, etc. Many projects will be on the agenda, so make an impact and engage the audience.

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Conference presentations	Engage Promote	National and International conferences are an important opportunity to share your achievements with experts in the field, e.g. teaching/learning, learning technology, digital libraries, etc. Make sure you have something to say, select conferences where it will have an impact, and ones that will attract the experts you want to impress.
Conference posters	Engage Promote	A poster session at a conference may be more appropriate when you have work in progress. You write up your work in poster format, and present it to delegates who attend the session. It may not be as glamorous as doing a presentation in the auditorium, but it's an excellent way to practice engaging people, gauge their reactions, and get one-to-one feedback.
Workshops	Engage	Workshops are small interactive events held to achieve a specific objective. A workshop could be used to get feedback from users on a demo or to get feedback from experts on a particular issue. Though there may be an introductory presentation to set the scene, the emphasis is on discussion to inform future development.
Demonstrations	Engage	Demonstrations allow you to show what you've developed and get feedback. Demos are useful early in the project to get feedback from stakeholders on functionality, usability and look-and-feel. Consider a demo for stakeholders at your institution to keep them informed about what you're doing and help with buy-in.
Online discussion lists	Awareness Inform Engage	As the name suggests, email lists are useful for discussing new developments, problems and issues. They are an opportunity to be proactive and reactive, share your learning with the community, and develop a profile for your project. Join a number of lists in relevant areas as well as the JISCMAIL list for your programme, cluster, or topic. Email lists are also useful for making announcements, e.g. an achievement, something new on your web site, or an event you're holding. See section II 5 on Communication.
Journal articles	Inform	Any and every opportunity should be taken to get articles published about the project. Consider peer reviewed journals in relevant disciplines near the end of the project when you have data and results to report. During the project you may want to contribute to electronic newsletters like <i>Ariadne</i> and <i>D-Lib</i> . Make sure you send a copy of any publications to the programme manager and post them to your web site.
Case studies	Inform	Case studies explain what you did and what you learned so others can benefit from your experience. If you built a MLE or a portal, a case study could be very valuable to others building something similar. Ask your programme manager about organisations and web sites collecting case studies in your area.
Reports and other documents	Inform	You may be preparing reports on specific topics. Post them on your web site so they are accessible to a wide audience. Think of anything your project has developed that may be useful to others e.g. guidelines, methods, evaluation criteria, toolkits, or questionnaires.

18.7 Timing

Decide when different dissemination activities will be most relevant. Messages will vary during the timeframe of the project. For example, at the start focus on awareness of your project, and at the end on 'selling' achievements. Also think about the time commitments of your target audience. There are periods in the academic year when it will be difficult to reach academic staff, e.g. at the start of the term or during examinations.

18.8 Collaboration

As noted above, the programme manager will have a dissemination strategy for the programme. This will ensure that the programme has a high profile, the community learns from its achievements, and outputs are embedded and taken up. The programme manager will share the strategy with the projects early in the project and invite them to contribute ideas. Where the programme is structured by clusters, the clusters will be asked to brainstorm about ways to collaborate on dissemination. Thinking early in the programme about the 'big picture' will maximise the impact of dissemination and the sustainability of its outputs.

There are many interesting possibilities for dissemination at programme level. A conference or workshop might be held, or a series of case studies based on project work. The Building MLEs in Higher Education programme (7/99) created a toolkit on [Creating a Managed Learning Environment](#). This is now posted on the JISC InfoNet site as one of their [InfoKits](#). In year two of the [Exchange for Learning programme \(X4L\)](#), a new programme web site was launched to showcase project work, including the learning materials they are repurposing, tools they are developing, project web sites and presentations, etc. There may be opportunities for cross-programme collaboration as well.

There are also interesting possibilities at cluster level. Clusters in a technical area might collaborate on a workshop or a showcase of demos. Clusters focusing on issues might brainstorm about how to get their findings to stakeholders and their knowledge taken up. Case studies are one method.

Projects will be asked to participate in programme and cluster dissemination activities. There are very selfish reasons for doing so. Firstly, initiatives at programme and cluster level often have more impact than those at project level. Colleagues in the field are more likely to attend a cluster workshop with six demos than a project workshop with one. A MLE InfoKit has more impact than a single case study. Secondly, it's cost effective. Contribute your ideas on collaboration and participate in the activities that are planned.

18.9 Language

Your project may be developing something that's technically difficult and complex. In dissemination activities, use language appropriate for the target audience, and non-technical language where possible. This is particularly important for dissemination to stakeholders. They need to know what you've achieved and why it's important. If you're writing a piece for the institution newsletter, focus on clear messages in non-technical language that teachers and administrators will understand. If you're writing an article for a computer journal on the design and architecture of your system, by all means use technical language and bring out the flowcharts and schematics. You can send the same messages to different audiences, but use appropriate language for each audience.

18.10 Evaluate Success

In planning the purpose of a dissemination activity, you decide what you want to gain from it. Try to build an evaluation component into any major dissemination activity to see if you've achieved your purpose. For example, if you invite people to visit your web site, check the usage logs. If you hold a workshop, hand out a short questionnaire to find out what participants thought of it.

18.11 Project Web Page

There is a requirement for each project to create the information for a page on the JISC web site describing the project in a standard way.

Each programme has a page on the JISC web site and the links to the project web pages feature at the bottom of those pages. There's likely to be great community interest in these pages at the start of the programme, so they need to be posted as soon as possible. All projects within the programme must create a web page, except for supporting studies resulting in reports. The process for creating them is outlined below.

The programme manager will create the programme page. Within one month of the project start, each project will create the information for its own web page and submit it to their programme manager. The programme manager will check over the information for each project page, edit it as necessary, and then 'publish' it to the JISC web site so it's live. S/he will then build the links from the programme page to the project pages.

The following structure and sub-headings should be used when writing your project description:

- Descriptive title of project (if relevant)
- Background
- Aims and objectives
- Outcomes
- Main contact person
- Address
- Telephone
- Fax
- Email
- Other project staff and contact details (where applicable) – this part is optional

This completes the process. The programme manager will get back to you if any information needs to be clarified.

18.12 Project Web Site

JISC requirement – Each project must create a web page/site. The lead institution must host it on their server for at least 3 years after the end of the project and assist JISC in archiving it

Each project must create a web page or web site to explain the project aims and objectives and to disseminate information about project activities and results. Within one month of the project start, the project will be asked to supply copy for a page on the JISC web site. There's a standard format for project pages, e.g. background, aims and objectives, overall approach, contacts. Most projects can extract suitable text from the project proposal. It informs the community about the project while the project develops its own proper web site. In the case of very small projects, e.g. a 4-month project developing a case study, the programme manager may decide that a project page on the JISC web site is sufficient.

Project web sites will vary with the nature and scope of the project. The project web site is an important and versatile dissemination tool. It will inform the community about your project, findings, resources you have created, and what you have learned. As a dissemination vehicle, it should include any publicity the project has created, journal articles, other publications, and presentations at conferences. For some projects, the web site is also a mechanism for making their deliverables available, e.g. digitised images or other collections of content. Think of what else would interest and engage the people who will visit the site and attract visitors, e.g. reports, designs, models, evaluation criteria, guidelines, demos, questionnaires, etc.

Projects should also post their core project documents on their web site. As a minimum, post the project plan and final report. Progress reports are also useful, as this lets other projects know where you are, and they can learn from how you're dealing with problems and issues. If you feel the formal progress reports you submit to JISC are too detailed, post a summary on the web site.

There isn't space here to give detailed guidelines on creating project web sites. There are several useful guides in 'further resources' below. However, projects should note the following hints and tips:

- Make it attractive and easy to use, with intuitive navigation
- Keep the web site up to date
- Submit the web site to key search engines so it gets lots of traffic
- Ask key web sites on similar topics to link to yours
- Use a link checker and make sure there are no broken links
- Make sure it follows best practice in accessibility for disabled users
- Mention that the project is funded by JISC.

A condition of funding is that the lead institution (or one of its partners) must agree to host the web site on their server for a minimum of 3 years after the end of the project and to assist JISC in archiving it subsequently. As the web site is a dissemination vehicle, archiving will ensure that the project's publicity material is preserved. Deliverables and core project documents will be archived separately in an appropriate JISC managed

repository. Before the project ends, consult the QA Focus briefing document on *Mothballing Your Web Site* and get the site in order before project staff leave.

18.13 JISC Guidelines on Publicity

The JISC Communications and Marketing team has put together a [toolkit](#) for JISC staff planning publicity. In future they may develop a similar toolkit for projects, but in the meantime there are several documents that projects may find useful:

- **JISC style guide** – A useful guide to punctuation, spelling, acronyms, abbreviations, etc
- **Writing a JISC press release** – Do's and don'ts of writing an effective press release
- **Organising an event** – Guidelines on how to plan an event, with useful checklists and other attachments
- **Referring to JISC** – Clear guidelines on how to refer to JISC and its web site
- **Using the JISC logo** – Clear instructions on how to use the JISC logo with electronic versions to download in several file formats and sizes.

In any publicity material about the project it is essential to include an indication that the project was made possible by funding from the JISC. Projects should follow the guidelines in the toolkit on how to acknowledge JISC and use the JISC logo.

Projects may find the documents on style, press releases, organising events, and other topics useful. Keep in mind that they are aimed at JISC staff creating JISC publicity materials, not projects planning their own dissemination, so follow the JISC approach where it's useful. Projects may find that their own institution has guidelines for publicity and may want to consult these as well.

18.14 Review as you Go

It's important to plan dissemination at the start of the project, so you can map out activities that will get the right messages to key audiences using the best methods. But plans are plans, and projects should update the dissemination plan in light of experience. Try to build evaluation into dissemination activities so you know what methods deliver the results you want. Focus on stakeholders and whether you're getting the message across. The plan is only a guide, so update it in light of what works.

18.15 Further Resources

- Web Focus was a project to provide advice and guidance on web technologies for the education sector. Brian Kelly developed [Guidelines for setting up Project Web Sites](#) specifically for JISC projects. It's a bit out of date (2000), but there's still some useful guidance.
- NOF Digitise – Brian Kelly developed [Guidelines for Setting up NOF-Digitise Web Sites](#) for the Opportunities Fund Programme. Not aimed at JISC projects, but still useful, and more recent (2002) than the Web Focus guidelines. There's also a useful paper on [Writing for the Web](#).
- [Netskills](#) is a JISC service providing internet training to the education sector. Their workshops and training materials cover many aspects of building web sites.
- Usability guru Jakob Nielson has lots of hints and tips on his web site, including an article about [Writing for the Web](#).
- Publicity – [JISC communications and Marketing Toolkit](#)

19. Exit and Sustainability Plans

JISC requirement – Projects must develop an exit/sustainability plan as part of the overall project plan to plan what should happen to project outputs at the end of the project, and to explore which ones should be sustained further and how.

JISC is seeking sustainable change and learning in the community. The change comes when people take up project outputs and learning and build on them. Sustainability is about what lives on after the project and how. Indeed, thinking about sustainability is a bit like thinking about 'death' and the 'afterlife'. Some project outputs will live a useful life during the project and simply need a good 'resting place' at the end. Some project outputs will live on after the project ends, e.g. content hosted by a service. Some project outputs will be taken up by others and transformed. VisiCalc was an early spreadsheet, and Mosaic was an early browser. They don't exist as products now, but the concept was so good, it was taken up by others who developed better products that were sustainable. To pursue the 'afterlife' metaphor, they were reincarnated. Exit and sustainability planning is thinking about what outputs should live on after the programme ends and how, and which ones simply need a good resting place.

19.1 Programme Strategy

As with evaluation and dissemination, the programme manager will develop a sustainability strategy at programme level. This will give some consideration as to the outputs that are most *likely* to be sustainable in the long term in the context of the programme's objectives and the outcomes it envisages. Like the dissemination strategy, it will consider the processes necessary for embedding, and take-up by the community. However, where dissemination tends to focus on *activities* to inform, educate, and engage, sustainability tends to focus on *models* and *scenarios*. The programme manager will share the programme strategy with projects, and this will provide a framework for planning exit/sustainability strategies at project level.

19.2 Project Plans

JISC funding is for the limited term as set out in the letter of grant. From the start, projects need to plan for what will happen to their outputs at the end of the project. This may seem premature, but sustainability has implications for the work done *during* the project. For this reason, projects must develop an exit/sustainability plan as part of the overall project plan. These will cover:

Exit - The planning needed to complete the project and get the best value from the work that has been funded

Sustainability – An assessment of which project outputs should be sustained after the project ends, how, and by whom.

In developing the exit/sustainability plan, projects should be guided by the programme manager and any requirements given in the circular/ITT or letter of grant. For example, some development projects involve creating a product or service that is specifically intended to be sustainable, and include requirements about design, service levels, intellectual property, etc. Obviously, these must be followed. The next sections give general guidance on planning exit/sustainability where no other specific instructions have been given.

19.3 Exit Plan

19.3.1 Step 1 – Revisit Project Outcomes

A good starting point is to revisit the project outcomes (Section III-5) you envisage, the changes your project will stimulate or enable, and its impact on the teaching, learning, and research communities. Your outcomes may relate to what people will be able to do better, faster, or more efficiently because of what you've done or learned.

19.3.2 Step 2 – Action for Take-up

Now think about the take-up and embedding needed to achieve the change you envisage. Your project outputs may include tools, models, guidelines, methods, case studies, knowledge, or recommendations that can be taken up by the community. Dissemination will be important to inform them about your work. Think about what else you need to do to encourage take-up, e.g. ensure that tools and models are used, guidelines or criteria are adopted. Considerations include how to make them available and how to get them accepted. Stakeholders may play an important role. It's a bit like launching a ship. You build and launch it, and others will sail in it.

19.3.3 Step 3 – Action for Exit

Before you launch a ship, you do need to make sure that it's safe and can be maintained. This is your exit plan. Considerations include access, preservation, maintenance, and intellectual property:

- **Access** – Who will host the deliverables after the project ends? Will they be available on your project web site? Have you made other arrangements for hosting?
- **Preservation** – All deliverables must be archived in the appropriate JISC data centre or managed repository, and core project documents must be archived in the JISC records management system. What preservation issues need to be addressed before this happens?
- **Maintenance** – What supporting documentation will be needed to maintain deliverables, e.g. specs, user guides, technical documentation? Will any ongoing maintenance be needed and what will it cost?
- **Intellectual property** – What third-party rights need to be cleared to make sure deliverables can be accessible to the teaching, learning, and community after the project ends? If you're developing open source software, which open source license would be appropriate?

The project plan template has a table to complete indicating the action needed for take-up and exit.

Project Outputs	Action for Take-up & Embedding	Action for Exit

You may not know all the answers at the start of the project, but think through the issues outlined above and develop a short plan that you can build on later. Thinking about take-up and embedding will inform your dissemination plan. Thinking about issues like access, maintenance, and IPR may have implications for project work.

19.4 Sustainability Plan

19.4.1 Step 4 – Sustainable Outputs

The next step is to think about what outputs are likely to be sustainable in the long term. For many projects, there won't be sustainable outputs. The work the project has done has been taken up by the community, leading to changes in thinking and practice. But for some projects there may be sustainable outputs, particularly in the area of content, software, and tools. You may be creating content that could be made available to the teaching, learning, or research communities on a permanent basis or to other sectors. You may be developing software or tools that could be developed further and licensed for different types of applications. Try to identify the outputs for your project that should live on after the project ends, who will want them, and why.

19.4.2 Step 5 – Sustainability Options

The last step is to think through sustainability scenarios for the outputs that should live on after the project. Think about who might carry them forward, how, and the issues that will need to be addressed to make your outputs self-sustaining. You won't have all the answers, but you'll have ideas that can be discussed with JISC throughout the project. Thinking through scenarios at the start will help you address the issues as you go along.

When developing scenarios, think about the **partners** you may need to take your outputs forward. For example, if you're working on a technical standard, a standards organisation could take it forward. If you have content, you will need an online host. If you have a pilot system or prototype software, you may need a technical partner to help develop it further. Projects rarely have all the skills needed to develop project outputs into products or services that are self-sustaining, so think of the partners you may need.

Think also about the **issues** that may be involved in making a product or service self-sustaining. These might include the following:

- **Market need** – There should be a genuine market need that isn't currently filled by other products or services. Your evaluation plan (Section III 16) should ensure that what you've created is useful and wanted by the community.
- **Quality** – Similarly, sustainable outputs need to be fit for purpose, of high quality, and created using appropriate standards and best practice. Your quality plan (Section III-17) will ensure this is the case.
- **Intellectual property** – You must ensure that any intellectual property rights are cleared to make outputs available after the project ends. Software should be registered.
- **Investment** – In most cases investment will be needed to develop products further, and in all cases a sound business model will be needed to make them self-sustaining.

The project plan template has a table to complete on sustainability where you can list possible scenarios for taking your work forward and issues to address. As noted above, you won't know all the answers at the start of the project, but thinking about the issues now will inform the project work.

Project Outputs	Why Sustainable	Scenarios for Taking Forward	Issues to Address

19.5 Business Plans

The exit/sustainability plan is done early in the project to help projects decide what outputs might be worth sustaining after the end of the project and the sustainability issues that should be addressed during the project. As the project proceeds, it will become clearer which outputs should be sustained and how. Where projects wish to exploit deliverables on a commercial basis after funding ceases, they should submit a business plan with economic models that demonstrate how the product or service will be self-sustaining. The timing might be around the project mid-point, and the business plan might cover the following topics:

- **Market analysis** – Market need, market sectors(s), users and user needs, competition
- **Product/service** – Definition of the product/service, benefits, unique selling points, critical success factors, cost-benefit analysis compared to competition
- **Infrastructure** – Hardware, software, hosting, delivery, processes, standards, facilities, maintenance
- **Future development** – Upgrading infrastructure, updating content
- **Expertise needed** – Competencies, partners needed and their roles, staff, suppliers, outsourcing
- **Management** – Leadership, organisation, staffing, administration
- **Economic models** – Setup/ongoing costs, investment, income generation (e.g. sales, subscriptions, third-party licensing, advertising, sponsorship)
- **Marketing** – Market sectors, marketing and promotion, training and support
- **Legal and intellectual property** – IP rights needed, licensing and legal agreements, digital rights management, software registration
- **Risk assessment** and management, including financial risks
- **Timing** – Overall timescale, phasing, milestones.

Before preparing a business plan, projects should review their letter of grant and see if there are any implications for commercial exploitation of project outputs. Projects should also discuss their plans with the

programme manager and any programme advisory board for advice and guidance.

19.6 Review as you Go

It's important to think about what will happen at the end of the project from the very start. The exit/sustainability plan will help you plan how to achieve the outcomes you envisage, and get your work taken up and taken forward. Your project may or may not have sustainable outputs. Make a preliminary assessment at the start of the project and see how things go. Discuss sustainability at project meetings, get the views of stakeholders and project 'champions' as work progresses. Change the plan as you go along as you get feedback from users, stakeholders, and other projects in the programme.

19.7 Further Resources

- The Technical Advice Service (TASI) has a useful paper on [sustainability issues for digital resources](#).
- The Council on Library and Information Resources (CLIR) has done some work on the sustainability of digital libraries. Abby Smith, '[Issues in Sustainability: Creating Value for Online Users](#)', *First Monday*, Vol. 8, No. 5, May 2003; Diane Zorich, '[A Survey of Digital Cultural Heritage Initiatives and their Sustainability Concerns](#)', June 2003.